NIGHTCAP VILLAGE

a masterplanned rural village

Volume 1

Statement of Environmental Effects for a
Staged Development Application and Concept Proposal

Prepared for Nightcap Village Pty Ltd by

Oakland Properties / Urban Systems / Malcolm Middleton Architects / Cardno / EDAW / Biolink / Prosperous Places / Three Plus

August 2006

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Technical Reports*

1. **URBAN DESIGN AND VISUAL ASSESSMENT REPORT FOR NIGHTCAP VILLAGE**
   Malcolm Middleton Architects - 2006

2. **SOCIO-ECONOMIC IMPACT ASSESSMENT FOR NIGHTCAP VILLAGE**
   Derek Kemp, Prosperous Places - 2006

3. **ECONOMIC AND EMPLOYMENT NEEDS REPORT FOR NIGHTCAP VILLAGE**
   Derek Kemp, Prosperous Places - 2006

4. **GEOTECHNICAL REPORT - NIGHTCAP VILLAGE MEBBIN**
   Australian Soil and Concrete Testing P/L - 2006

5. **NIGHTCAP VILLAGE ECOLOGICAL ASSESSMENT**
   Cardno - 2006

6. **NIGHTCAP VILLAGE FLOOD STUDY**
   Cardno - 2006

7. **NIGHTCAP VILLAGE BUSHFIRE MANAGEMENT PLAN**
   Cardno - 2006

8. **STORMWATER MANAGEMENT PLAN**
   Cardno - 2006

9. **CULTURAL HERITAGE SEARCH**
   Davies Heritage Consultants - 2006

10. **NIGHTCAP VILLAGE ENVIRONMENTAL MANAGEMENT PLAN**
    Cardno - 2006

11. **NIGHTCAP VILLAGE EARTHWORKS MANAGEMENT PLAN**
    Cardno - 2006

12. **NIGHTCAP VILLAGE INVESTIGATION OF WATER SUPPLY AND EFFLUENT DISPOSAL OPTIONS**
    Cardno - 2006

13. **NIGHTCAP AT MISTY MOUNTAIN - TRAFFIC STUDY**
    Cardno Eppell Olsen - 2006

14. **TELECOMMUNICATIONS REGISTRATION**

15. **NOTICE FOR ELECTRICITY SUPPLY AVAILABILITY**
    Country Energy - 2006

16. **NIGHTCAP VILLAGE INTEGRATION OF VILLAGE CONCEPT WITH THE SURROUNDING LAND**
    Biolink Pty Ltd - 2006

17. **COMMUNITY ENGAGEMENT FOR THE PROPOSED NIGHTCAP VILLAGE**
    Three Plus Pty Ltd - June 2006

* *REPORTS ARE LISTED IN ORDER OF REFERENCE IN VOLUME 1*

Introduction

01

This is an application for the staged development of a new rural village called Nightcap, situated between Uki and Kyogle and just west of the hamlet of Kunghur in the Tweed Coast hinterland.

Nightcap is zoned for residential village development and represents an extraordinary and rare opportunity to develop a rural village from scratch in one of the most pleasant areas in Australia.

The challenge at Nightcap has been to develop a visionary but workable concept for a rural village for the 21st Century – not a replica of historic rural villages and certainly not a form of suburbia in the bush.

The Nightcap concept embraces a mixture of housing densities and types in today's architectural vernacular, mixed with employment uses and centred on a Town Square and village open spaces. The village will have a permanent backdrop of rural and conservation land use, which will actively complement and support village living through recreation, forestry, effluent irrigation, woodlots and a market garden.

The use of new technologies will help environmental and economic sustainability through responsible water cycle management including the use of membrane treatment for sewerage effluent, rainwater tanks and water treatment and recycling, solar energy for power and broadband telecommunications for business.

The development of Nightcap also involves considerable challenges. The initial infrastructure required to establish the village will cost more than $15 million in roads, bridges, water and sewerage supply and treatment, land rehabilitation, village open spaces and landscaping. Yet the market for a new rural village is untested.

Notwithstanding the challenges, we are proud to present the Nightcap Village proposal and believe that it represents a responsible and sustainable approach to rural settlement in the 21st Century.

Peter Van Lieshout
Chairman Nightcap Village Pty Ltd

Summary

02

	NIGHTCAP VILLAGE	
Property Description	Lot 121 in DP134446 – Zimmer Land Pty Ltd (P. Van Lishout) Lot 4 in DP737440 – Kempcove Pty Ltd (P. Van Lieshout) Lot 3 in DP755714 – Zimmer Land Pty Ltd (P. Van Lieshout) Parish of Kunghur, County of Rous	
Site Area	48.6 hectares (Village)	
Applicant Contact	Peter Macgregor GPO Box 358 Brisbane Qld 4001 07 3211 7178	
Draft Far North Coast Regional Strategy Designation (NSW Dept of Planning)	Designated "Urban Area" A central aim of the Strategy is to develop "a region of villages"	
Zoning under the Tweed LEP 2000	Residential 2(d) Village, Rural 1(a) for the surrounding land	
Type of Application	Staged development application under Section 83 of the EP&A Act	
What the Application Seeks	1. Approval to the staged development of the land 2. Approval to Concept Proposals for Nightcap Village in the form of a draft component of the Development Control Plan (Appendix A) 3. Agreement to the subdivision of 3 village master lots and ancillary lots for infrastructure (subject to a specific development application) 4. An amendment to the Tweed LEP to allow building on lots of less than 450m² within the Village boundary or the approval of a SEPPI objection	
Proposed Development Process	A hierarchy of plans: • Approval of Concept Plan (draft component of the Development Control Plan) • Submission and approval of Precinct Plans • Submission and approval of specific Development Applications	
Concept Proposal (note that all development figures are indicative at this stage)	• Contemporary sub-tropical vernacular with the emphasis on sustainability in architecture and infrastructure • 400 – 450 dwellings including detached, attached and unit dwellings at low to medium density • Small business space of 2500m² • Tourism uses including a conference centre and accommodation • Retail uses of up to 1000m², 600m² of cafes and restaurants • Open space areas including a village square, village green, oval and market garden • Conservation areas • Rehabilitation areas	
Precinct Detail		
Village Lots	Low-density residential (included environmental protection)	11.0ha
Village Housing	Low-medium density housing	5.1ha
Mixed Village	Town square, medium density housing, commercial, community, employment uses	3.9ha
Tourism and Special Uses	Conference centre, health centre, other	0.5ha
Open Space	Village green, oval, market garden	4.0ha
Environmental Open Space	Riparian and natural corridors	16.0ha
Rehabilitation	Hillside revegetation and other	2.0ha
Roads and other	Roads and parking area	6.1ha
		48.6 ha
Site Characteristics	Undulating with some steeper slopes Site is farmland with riparian vegetation along the Tweed River and small clumps of trees	

	NIGHTCAP VILLAGE
Environmental Assessment	
Ecological	Key elements: • Significant increase in indigenous habitat • Protection and planting of additional riparian vegetation along the River • Protection of forest clump containing Green-leaved rose walnut • Use of local species for additional planting and rehabilitation • Implement Threatened Species Management Plan and Environmental Open Space Management Plan to preserve significant vegetation
Bushfire management	Bushfire Management Plan prepared. Asset Protection Zones are to include adjoining grazing land in the same ownership
Flooding	Flood areas are to remain undeveloped in 1 in 100 year event Minor cut and fill in the southwest of the site
Environmental management	Environmental Management Plan prepared to manage environmental impacts
Cultural Heritage	No aboriginal objects or places recorded on the site. Further investigations to be undertaken as part of Precinct Plans
Geotechnical investigations	No potential impacts on development were identified. Further investigation to be undertaken in Precinct Plans
Socio-Economic Assessment	The Village will arrest projected population decline in the area Estimated total investment of $130 million Employment benefits estimated at 230 additional jobs and mainly local jobs
Management	Owners Corporation
Infrastructure	All to be provided by the proponent
Water	Self-sustainable – all buildings to have rain water tanks, water storages on-site, re-use of stormwater and sewerage effluent
Sewer	Self-sustainable on-site treatment using proven membrane treatment technology with effluent reuse for woodlot and other irrigation
Stormwater	Water sensitive urban design principles, treatment on-site and recycling for irrigation
Electricity	Capacity available
Roads	Central access point on Kyogle Road. Roundabout location preferred on Kyogle Road for safety reasons Development contribution to Kyogle Road upgrading through Infrastructure Agreement or Section 94 Plan Village emphasis on pedestrians, 40 kph vehicle limit and central visitor parking
Proposed Infrastructure Management	Proponent / Owners Corporation except: • The Mebbin National Park Road; • The eastern loop road linking to the Mebbin National Park Road and including the Main Street
Proposed Staging	Three stages over a 10 to 15 year timeframe
Consultation	Briefing of Council Officers Presentation to Council Administrators Community "Open Day" at the Uki Hall on May 28, 2006 45 Feedback Forms completed

The Nightcap Village Development Application

03

3.1 Summary

The development area proposed for Nightcap Village is generally contained within the Residential 2(d) Village Zone. The zone specifically provides for rural village development and is depicted in **Figure 3.1.**

This application is an application for:

- Staged development under Clause 83 of the Environmental Planning and ASsessment Act 1979;
- Concept proposals for Nightcap Village in the form of a draft component of the Development Control Plan; and,
- Agreement to the subdivision of three village master lots and ancillary lots necessary for infrastructure to serve the Village (specific development application to be submitted).

The application also seeks an amendment or relaxation from complying with (SEPPI objection) the Tweed Local Environment Plan to allow building on lots with an area of less than 450m2 within the Village boundary.

3.2 Request for a Staged Development Application

A staged development application for Nightcap Village under Clause 83 of the EP and A Act is requested to provide for a hierarchy of approvals to be set in place for the development of Nightcap Village. This will provide for:

- the orderly and proper development of Nightcap; and
- a staged commitment by both the Tweed Shire and the proponent to the Concept and subsequent more detailed Precinct Plans and development applications for specific development.

This approach is needed given the complexity of the Nightcap proposal and is specifically provided for in Clause 83B of the EP and A Act:

> *"(1) For the purposes of this Act, a staged development application is a development application that sets out concept proposals for the development of a site, and for which detailed proposals for separate parts of the site are to be the subject of separate development applications. The application may set out detailed proposals for the first stage of development.*
>
> *...(3) If the consent is granted on the determination of a staged development application, the consent does not authorise the carrying out of development on any part of the site concerned unless:*
>
> *(a) consent is subsequently granted to carry out development on that part of the site following a further development application in respect of that part of the site, or*
>
> *(b) the staged development application also provided the requisite details of development on that part of the site and consent is granted for that first stage of development without the need for further consent."*

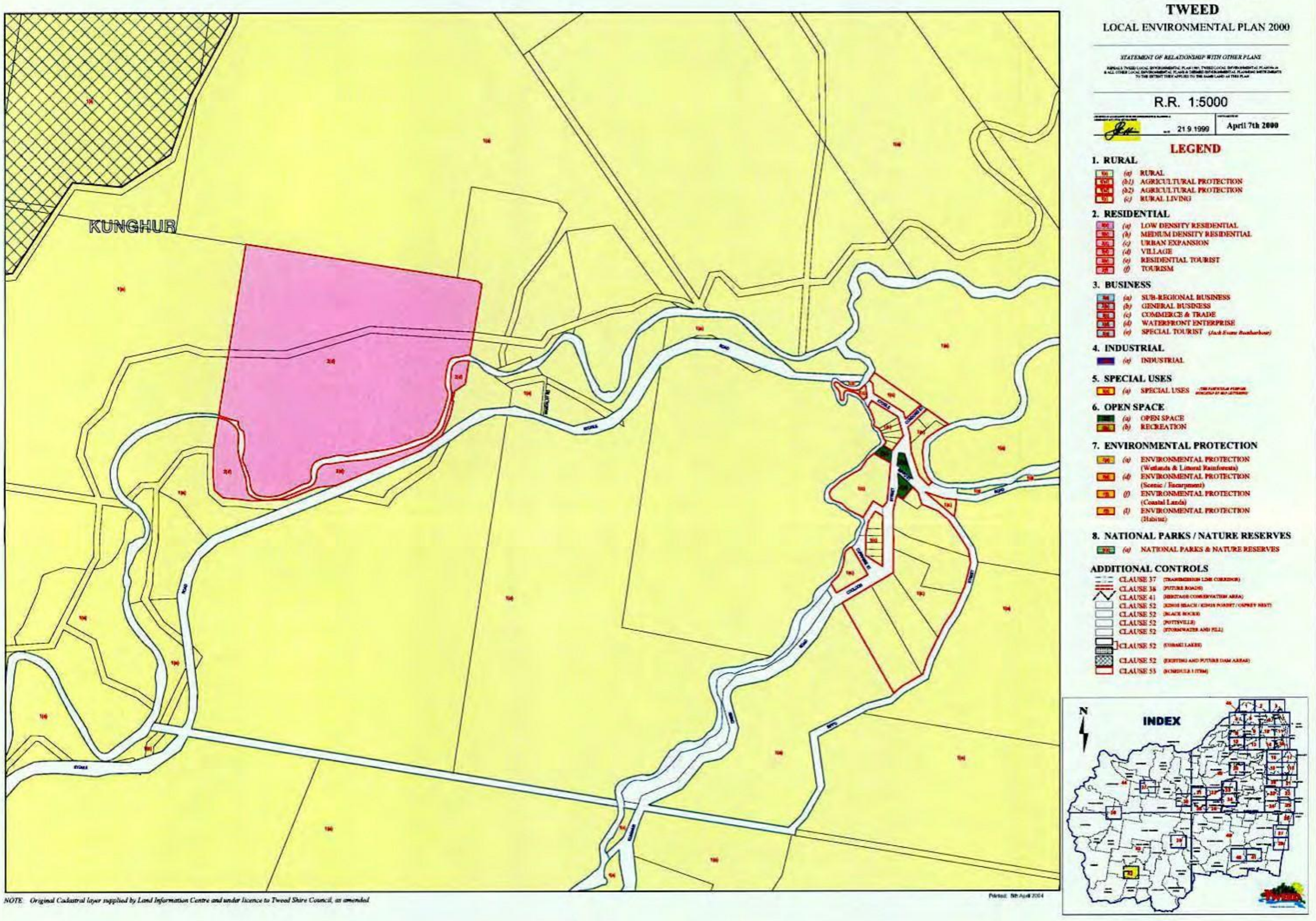
The application seeks agreement to Concept Proposals for Nightcap Village as detailed in Section 5 of this report (*"The Proposal"*) and as contained in statutory form in **Appendix 1** – Nightcap Village Concept Plan (draft component of the Development Control Plan).

3.3 The Staged Development Application (Concept Proposal) as a draft component of the Development Control Plan

The application and concept proposal have been written and presented in the form of a draft component of the Development Control Plan. This documented is included as **Appendix 1** of this Volume and contains the following information:

- The Concept Plan and Objectives for the Village;
- The division of the Village into Precincts;
- Precinct Intents and development guidelines in the form of Precinct Objectives and Acceptable Solutions;
- Details of easements and ancillary lots outside the Village area to provide for the following complementary activities:
  - ~ market garden
  - ~ water storage, water treatment and easements for water conveyance;
  - ~ a sewerage treatment plant and sewerage easements; and
  - ~ a woodlot and suitable areas for sewerage treatment plant effluent irrigation
- A Development and Infrastructure Staging Plan including the timing of development and infrastructure and the creation of three Master Lots;
- Nightcap Village Management including responsibilities for construction and maintenance of infrastructure and facilities and the formation of a Nightcap Village Management Committee; and,
- Procedures for Nightcap Village development applications.

FIGURE 3.1
Tweed Shire Council
Local Environment Plan 2000
Nightcap Village Residential 2(d) Zone
and surrounding Rural 1(a) Zone



This Concept Proposal/DCP is intended to be incorporated into the Tweed Local Environment Plan and satisfy the requirements of Clause 83C(3) of the EP and A Act:

> *"Any such staged development application is to contain the information required to be included in the development control plan by the environmental planning instrument or the regulations."*

3.4 The Concept Proposal does not require an Integrated Approval at this stage

The concept proposal does not require an Integrated Approval since it does not seek approval for subdivision or works at this stage.

Subsequent Precinct Plans and applications will require approval from the following State Agencies:

(1) Roads and Traffic Authority – to permit the construction of a roundabout within the boundary of the Kyogle Road.

Our traffic studies indicate that it may be safer to construct a roundabout within the curtilage of Kyogle Road to provide access to Nightcap Village and the rural residential subdivision known as Mebbin Springs on the southern side of the road. The alternative is a "T" Junction at the Kyogle Road.

(2) NSW Rural Fire Service – consent to the Bushfire Management Plan is required under the Rural Fires Act 1997.

3.5 Request to amend the Tweed LEP to allow for lots of less than 450m2 at Nightcap Village

One of the consistent criticisms of development in coastal and rural development areas is that it often replicates city suburbia. The primary reason that developments replicate suburbia is the predominance of large lots with large detached dwellings on them. Nightcap seeks to develop a range of dwelling types and densities including dwellings designed for lots below 450m2 as are found in traditional rural village environments in Australia and throughout the world.

The proposed mix of relatively small areas of development separated by public open space is particularly suited to dwellings which are specifically designed for smaller lots.

In response, the application seeks consideration of an amendment to the Tweed LEP to provide for lots of less than 450m2 at Nightcap Village. This would involve the inclusion of the Nightcap Village site in Clause 53 "*Development of specific sites*" together with suitable conditions. The wording in Table 3.1 is suggested. The alternative is the approval of a SEPPI objection to allow buildings on lots of less than 450m².

TABLE 3.1

SUGGESTED AMENDMENT TO CLAUSE 53 OF THE TWEED SHIRE LEP

Specific Site	Additional development permitted with development consent	Conditions
Part of Lot 121 DP134446	Subdivision and development for the purpose of residential building on lots with an area of less than 450m2.	An application pursuant to this item must not be granted unless design parameters are established for the building or groups of buildings including: • front, rear and side setbacks; • building height(s); and • building elevation(s).

The Site and Surrounding Area

04

4.1 Location

The Nightcap Village site is located on the Kyogle Road approximately 14 kilometres southwest of Uki in the Tweed coastal hinterland in northern NSW (see **Figure 4.1)**. The location is 29 kilometres southwest of Murwillumbah and some 60 kilometres from the Gold Coast.

Uki is the closest settlement which offers shopping, primary school and basic community services.

The Kyogle Road follows a valley centred on the south arm of the Tweed River between the Mt Warning National Park and the Nightcap National Park.

The site is situated just west of the small hamlet of Kunghur. A rural residential subdivision known as Mebbin Springs is situated opposite the Village site on Kyogle Road. Mebbin Springs will comprise some 66 rural residential lots and subdivision infrastructure is substantially complete.

Rainfall in the vicinity exceeds 1500mm and the natural vegetation is drier sclerophyll forest on the sunny slopes with rainforest on the shadier slopes and lowlands.

Much of the lower valley slopes in the vicinity have been cleared and farmed for many years with vegetated steeper slopes rising to forested ridges.

4.2 The Nightcap Village Site

The Village site is situated on the northern side of the Kyogle Road and is bound:

- To the south by the Uki-Kyogle Road, the Mebbin Springs rural residential development and a native plantation forest;
- To the north and east by cleared and partially cleared farming land and mountain foothills; and,
- To the west by intact bushland on steeper, easterly facing slopes.

A recent aerial photograph of the site is shown as **Figure 4.2.**

The site is part of a rural holding of 1300 hectares owned by the Van Lieshout family and is used for cattle grazing, plantation forestry, forest conservation and outdoor recreation.

The Village site has the following features:

- A frontage of approximately 1700 metres to the Tweed River;
- Access from the Kyogle Road over a bridge on the River to the Village site;
- An undulating landscape with flatter and floodprone land adjacent to the River rising to undulating to steeper southern and eastern slopes;
- A large dam in a gully in the centre of the site; and,
- Northern views to Mt Warning and southern views to Mt Burrell and the Nightcap Range.

The land is largely cleared and dominated by pasture grassland with scattered clumps of trees. The land is highly disturbed and there has been widespread invasion of exotic flora, particularly Camphor laurel trees in gullies.

The village area is approximately 50 hectares and closely equates with the Tweed LEP 2(d) Village Residential zone for the site.

FIGURE 4.1
Nightcap Village Location

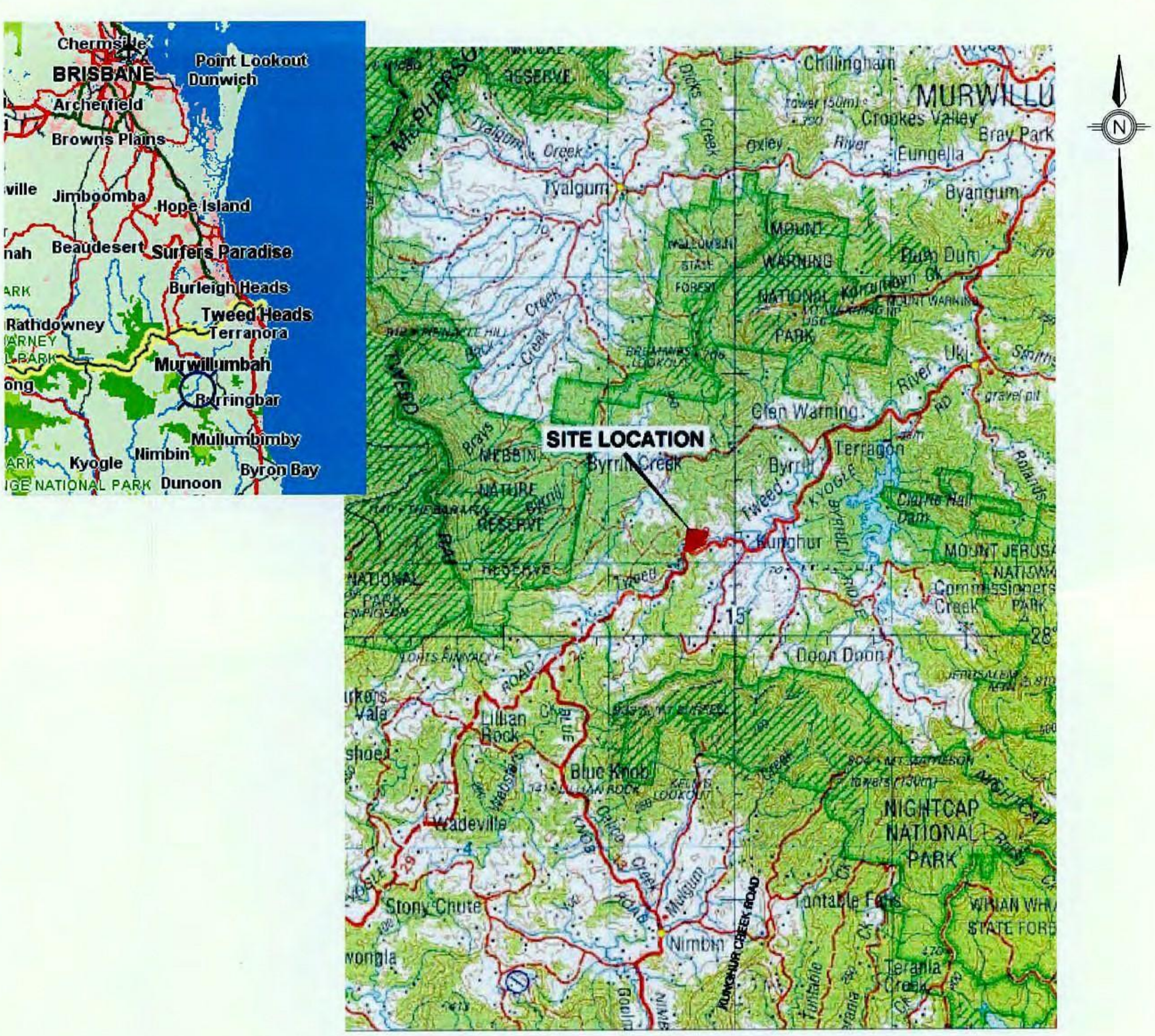
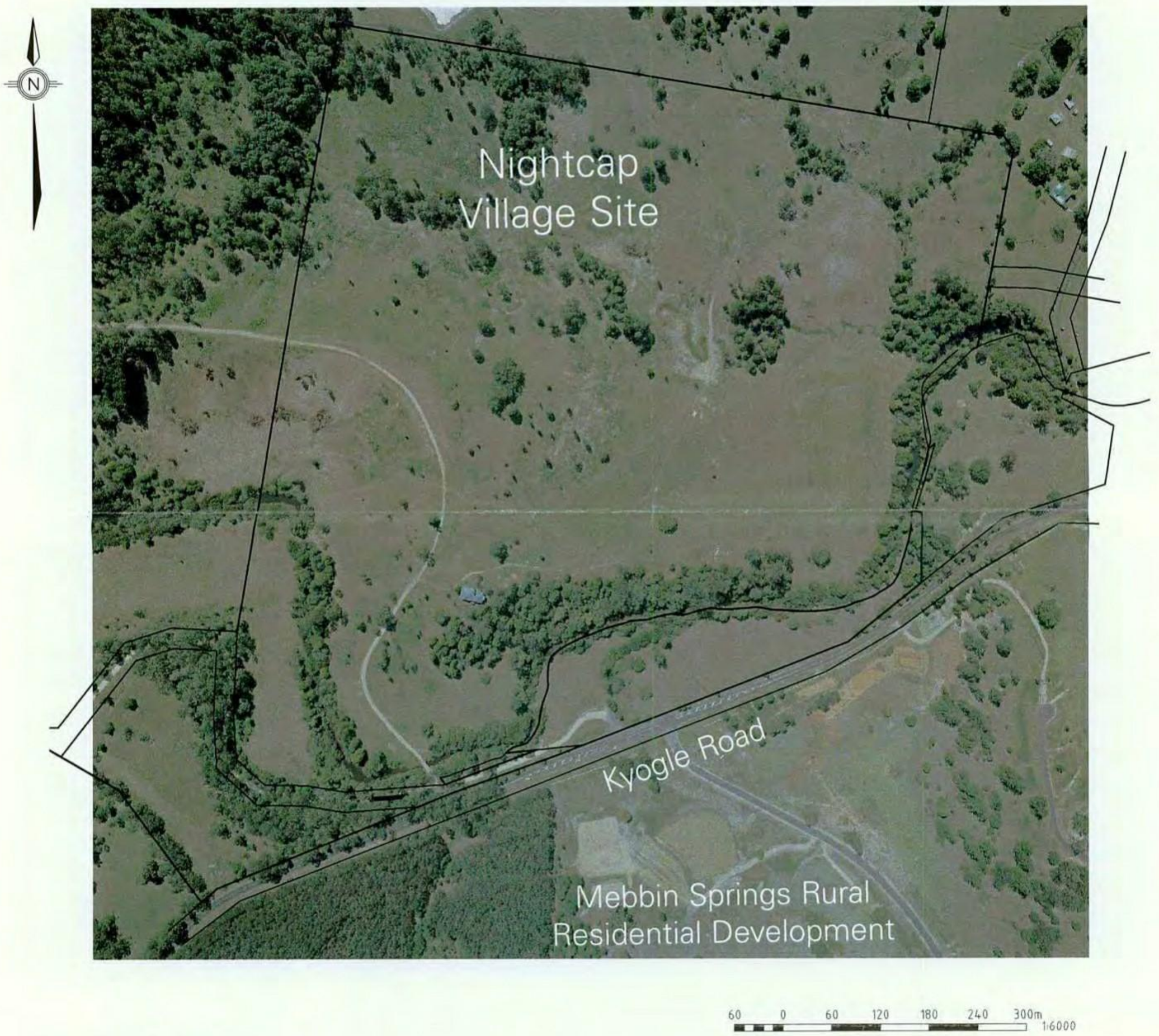


FIGURE 4.2
Aerial Photo of the Nightcap Village Site



LEGEND

——— Cadastral boundaries

The Concept Proposal

05

5.1 Overview

The Concept Proposals for Nightcap Village are depicted in **Figures 5.1 and 5.2**. The Village is envisaged as a totally planned and designed settlement which has a strong employment base and fit with its environment and surrounds.

Nightcap will have the following features:

- A central and safe access point on the Uki Road.
- A pedestrian orientation with low speed 40 kph streets and central car parks to discourage visitor car trips within the Village.
- A thoroughly integrated building, street and public open space design which embraces indoor/outdoor living in a modern architectural vernacular. This is an important point of difference. Nightcap does not seek to replicate "old country town" architecture but to develop its own vernacular using the latest sustainable house designs in tin, timber, steel and glass. This is a village for the 21st Century, not the 19th Century.
- Employment and activities concentrated along a main street running parallel with the Tweed River and including backpacker's accommodation, a hotel, artists and artisans, woodworkers, two or three restaurants and a conference/ interpretative centre. The availability of broadband internet is an important factor in the development of home-based employment.
- A residential community of some 400-450 dwellings ranging from detached houses on larger lots, smaller lot housing, apartments around the village centre and "shop-top" residences along the main street.
- Central open spaces – a village oval next to the River, a central village square off the main street and a village green surrounding large fig-trees on the hill overlooking the village.
- Conservation and rehabilitation of significant natural areas.
- Integration with surrounding land and forests in the same ownership.
- Integrated water cycle management with self-sufficiency in water collection, stormwater and effluent treatment and recycling.

The Urban Design Report by Malcolm Middleton Architects explains the design philosophy for Nightcap Village and is contained in Volume 2.

5.2 Precinct development and uses

The proposed Village precincts and their respective development and uses are summarised in **Table 5.1**.

Note that **yields for residential precincts are preliminary only** and will be the subject of detailed planning as part of the preparation of precinct plans. Figures for retail development are also indicative at this stage as are the types of tourism developments. The area proposed for development represents only 50% of the total area zoned 2(d) Village under the Tweed LEP.

5.3 Residential precincts and yield

There are two residential precincts and a mixed use precinct containing different types of dwellings and at different densities. The total dwelling yield is expected to be between 400 and 450 dwellings, which would accommodate 880 to 1000 people at an average household size of 2.2. The average population expected on site at any one time would be considerably less than these figures given that many dwellings owners would be expected to be part-time residents. The indicative dwelling make-up for the Village is shown below.

The **Village Lots Precinct** is the largest residential precinct and is envisaged as a more traditional detached housing area with average lots sizes of 550 to 600 m2. The Village lots would occupy the higher Village land with views over the Village to the Nightcap Range.

The area is bordered by rural land and environmental open space. Some lots would have frontage to open space around the central water storages.

The **Village Housing Precinct** would provide for a variety of housing types including smaller lot detached housing, townhouses and semi-detached dwellings to two and three storeys. The Village Housing Precinct areas have been carefully chosen to maximise views and interaction with passive and active open space including the Village Green and the Village Oval.

Residential areas are all within a maximum walking distance of 400 metres to the Main Street and Town Square.

FIGURE 5.1
Concept Plan for Nightcap Village

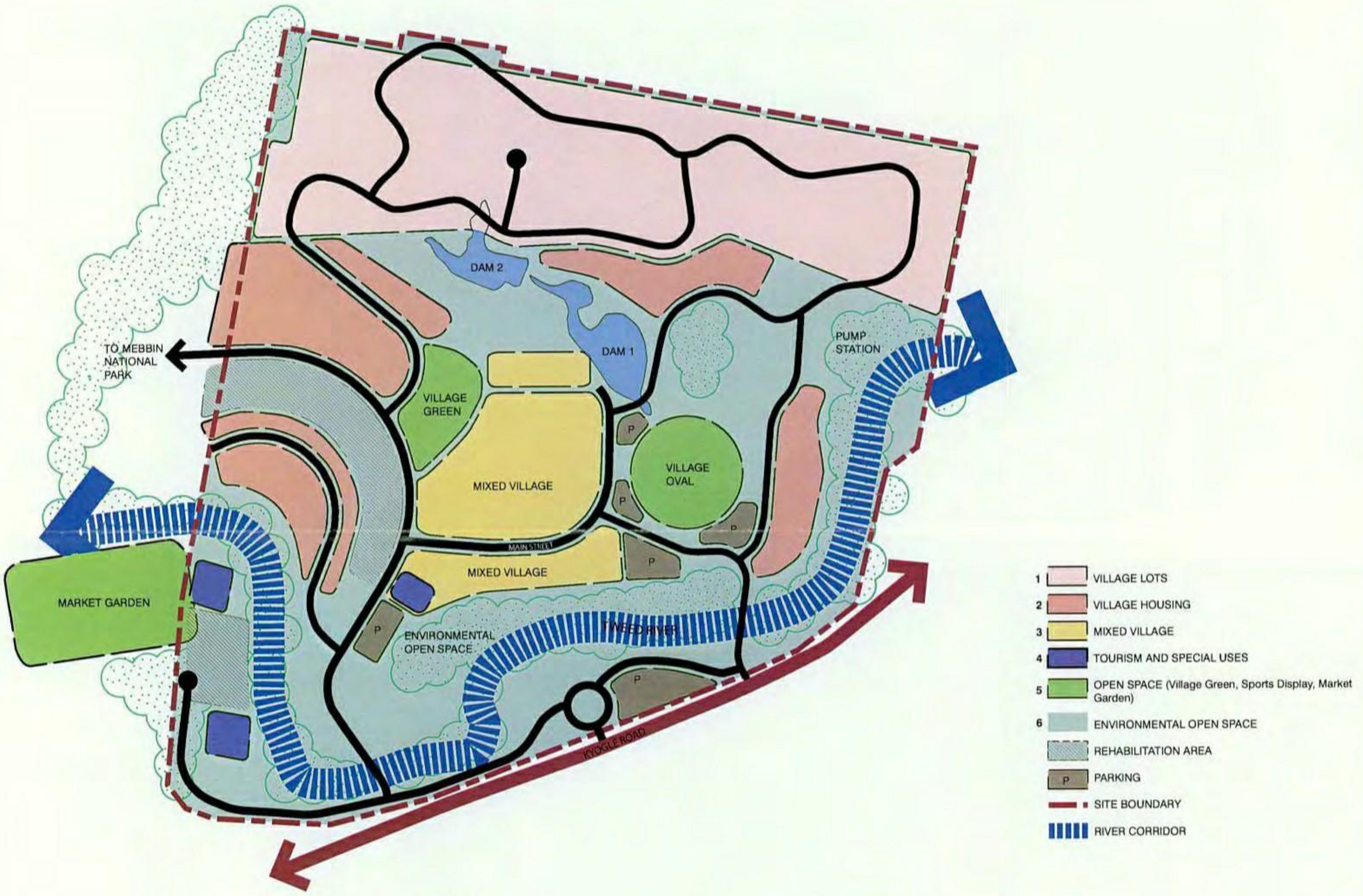


FIGURE 5.2
Concept Plan for Nightcap Village

TABLE 5.1

PROPOSED DEVELOPMENT AND USES FOR NIGHTCAP VILLAGE*

Precinct	Area	Uses	Indicative Yield
1. Village Lots	11.0	Low density residential – detached housing on larger lots	170 dwellings
2. Village Housing	5.1	Low-medium density residential – detached, semi attached housing, townhouses, small lot housing	130 dwellings
3. Mixed Village	3.9	Low-medium and medium density – semi-attached, detached, townhouses and units Retail and employment uses – hotel, backpackers, trades, display	130 dwellings 1000m² retail
4. Tourism and Special Uses	0.5	Conference centre, health centre	10 dwellings
5. Open Space	4.0	Village green, village oval, market garden	Nil
6. Environmental Open Space	16.0	River riparian corridor, watercourse corridors, protected vegetation (includes rehabilitation areas)	Nil
Rehabilitation	2.0	Hillside revegetation area	Nil
Parking	1.2	Parking	235 public spaces
Road and Verge	4.9	Roads, landscaping, swales, paths	
TOTAL AREA (including market garden)	**48.6**		

*Note that area and yield figures are preliminary only and will be more accurately determined on detailed precinct planning

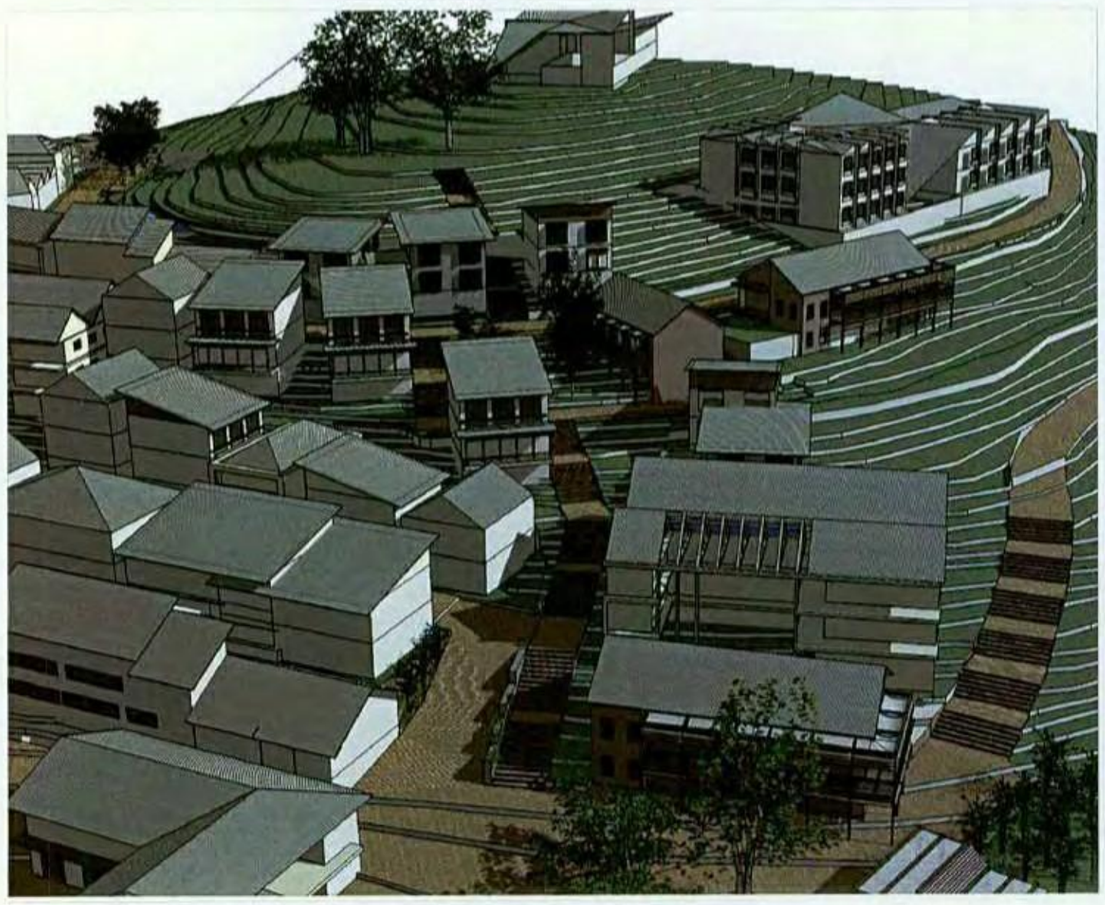
TABLE 5.2

INDICATIVE PRECINCT RESIDENTIAL YIELD AND DWELLING TYPES*

Precinct	Dwelling Density	Detached Dwellings	Townhouse Semi-Attached	Units	Total Dwellings
Village Lots	15 per ha.	170	0	0	170
Village Housing	25 per ha.	30	70	30	130
Mixed Village	28 per ha.	10	50	50	110
Tourism	20 per ha.	0	0	10	10
TOTAL		**210**	**120**	**90**	**420**

* Dwelling numbers are indicative only

FIGURE 5.3
Residential Concept Designs
Village Housing and Village Lots



5.4 The Village centre – the Mixed Village Precinct

The Mixed Village precinct contains the Main Street, Town Square and residential, commercial and employment uses.

The Main Street and Town Square will have a commercial/ residential mix of generally built-to-boundary buildings with shop-top housing and detailed streetscape design which encourages indoor/outdoor living.

Retail floorspace of about 1000m2 may comprise a general store, a restaurant and café, and craft shops. Working craft and art studios are an important part of this mix.

The precinct will contain dwellings at higher densities and up to three storeys. Dwellings will be adjacent or nearby to commercial and employment uses around the Town Square and Main Street. Attached units, semi-detached housing, shop-top loft apartments on the Main Street as well as detached housing on small lots, will provide a variety of living spaces in the centre of the Village. All dwellings and uses within the Mixed Village Precinct will be within 100 metres of the Village Green or Oval.

5.5 Tourism and Special Uses

The tourism and special uses will provide local employment and economic development opportunities and help to establish the town as a visitor destination. The proposed uses include:

- An interpretative/conference centre with the objective of attracting conferences relating to conservation and land management but also for corporate use;
- a backpackers hostel;
- a hotel adjacent to the Village Green;
- a health centre for short-stay visitors;
- the development of artisan studios with a particular emphasis on fine finished products made from local timber; and
- complementary activities on the adjoining land including camping, bushwalking, horse riding, farming and forestry.

In addition, working craft exhibits and the attraction of the Village oval for a regular market and car, motorcycle and other club rallies will encourage visitors and activity.

5.6 Public Open Space

Public open space will be a feature of Nightcap Village. The juxtaposition of public and environmental open space compliments the position of the village centre and village housing precincts. The aim was to surround more intensive built areas with easily accessible open space and, for most residents, direct views to open space. The key open space areas are:

- The Town Square which will be the centre of Village activity and built form;
- The Village Green which surrounds old fig trees on a hillock on the western side of the village centre;
- The Village Oval for active recreation, market and rallies;
- Open space surrounding the water storages; and
- The market garden.

Residents will have a right to a plot in the market garden as part of the sale of property. In addition controlled access to the surrounding tracks and land will be available for bushwalking, mountain biking, horse riding, camping and bush recreation. There is already a bush recreation camp established by a lake approximately 1000 metres north of the Village.

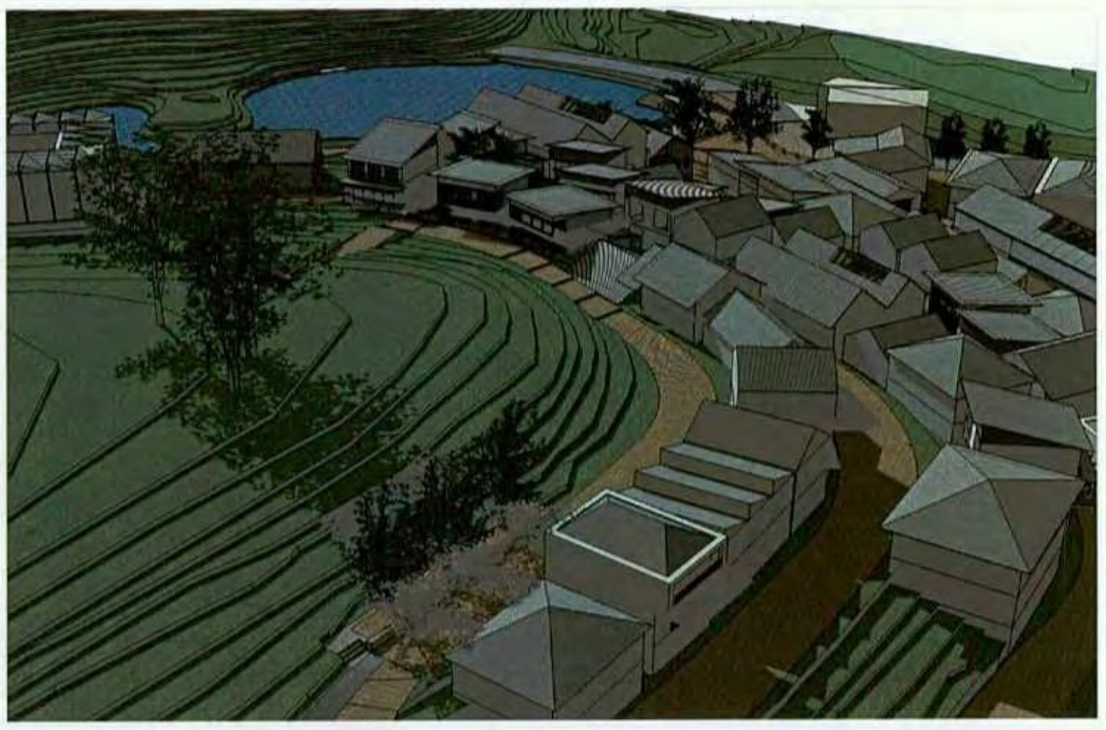
5.7 Environmental Open Space

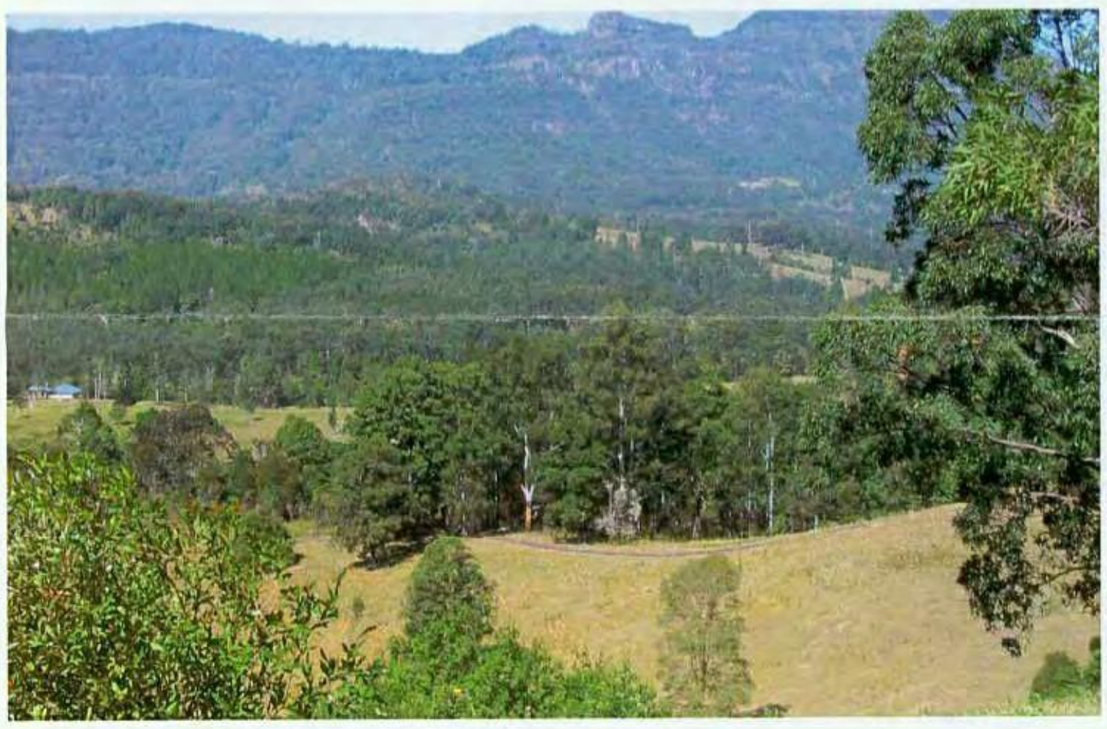
Environmental open space will be conserved and rehabilitated and provides the natural setting for the Village. The key areas of environmental open space are:

- The riparian protection area along the Tweed River which will be a minimum of 50 metres from the river bank. Exotic species and weeds will be removed and cleared areas replanted with native vegetation. A boardwalk and footbridge will allow low key pedestrian access.
- The surrounds of the dams and central watercourse which will be stabilised and replanted with indigenous vegetation.
- A rehabilitation area along the steep bottom side of the Mebbin National Park Road. This hillside is currently grazed and will be fenced off and replanted with indigenous species.
- Isolated clumps of native vegetation which will be conserved and replanted where necessary.

These protected and enhanced environmental open spaces are integral to the "design with nature" philosophy.

FIGURE 5.4
Concepts for Mixed Use and Open Space





5.8 Movement, access and parking

The central access point from Kyogle Road meets all safety criteria, but our traffic investigations indicate that it may well be safer to install a roundabout within the curtilage of the road to access both the Village and the Mebbin Springs rural residential development opposite.

Two new bridges over the Tweed River will be built to provide a loop road for easterly and westerly access to Village development.

The internal road layout has been designed to provide good access to the central activity areas and the primary residential precincts surrounding, but to minimise through traffic by visitors.

Central visitor parking areas have been designed to further minimise vehicular traffic and encourage pedestrian movement in the Village precinct.

A central footbridge across the Tweed River to the Main Street from the main visitor parking area off the Kyogle Road will also encourage walking rather than car access. A footbridge to the Market Garden is an important secondary pedestrian route.

5.9 Constraints to development

Naturally constrained land including areas of significant flora and fauna, areas subject to flooding, steeper areas and areas required for bushfire management have been generally excluded from developed after detailed technical studies.

The only exception is a small potential inundation area adjacent to the Tweed River in the western Village Housing precinct which is proposed to be filled to provide a connected access and development area.

Technical studies are documented in detail in later sections of this Volume and are contained in full in Volume 2 of this application.

5.10 Sustainable Water Cycle Management

Sustainable water cycle management is often talked about but seldom achieved in practice. It is not practical to connect the Village with a reticulated municipal water supply and sewerage system. This presents an opportunity to develop a self-sustainable water management system using the most up to date technology. Most importantly, the performance of the technologies proposed for Nightcap is proven.

Water supply will come from:

- rainwater tanks on all buildings;
- stormwater collection on site; and
- water storage on the Village and adjoining site.

Sewerage will be treated by a membrane treatment plant which will:

- be sited approximately 500 metres to the north of the village in a small redundant quarry site and well away from the Tweed River;
- treat effluent to tertiary standard with very low nitrogen and phosphorous levels;
- be used to irrigate a woodlot in the centre of the property and other potential irrigation areas.

Membrane treatment technology is proven and has been installed in many new municipal systems. Port Macquarie Council, for example, is installing a membrane plant to service the new town of Thrumster which will serve more than 11,000 people. Annual monitoring of treatment plant performance and woodlot effluent is an expected requirement.

Treated stormwater will be used for:

- market garden supply;
- garden watering; and
- landscape and open space watering.

5.11 Management of Nightcap Village

The construction of Nightcap Village including all roads, bridges, utility infrastructure, landscaping, electricity, telecommunications, environmental improvements and rehabilitation will be the responsibility of the proponent.

Maintenance of infrastructure and services will be the responsibility of the Nightcap Village Owners Corporation.

The development and maintenance of Nightcap Village is planned without financial input from the Tweed Shire.

A Management Advisory Committee is envisaged comprising representatives of the proponent, the Village, the general community and the Shire.

5.12 The integration of the Village with surrounding land use

Rarely does an opportunity present itself to effectively integrate a proposed new village with surrounding land use so it has the potential to enhance the proposed community's lifestyle, provide important employment opportunities and promote more ecologically sustainable land use practices.

The Village site is surrounded by a 1300 hectare land parcel owned by the Van Lieshout family. Despite a history of logging and farming, the land retains a number of important conservation values, including large areas of sclerophyll forest, patches of lowland sub-tropical rainforest and threatened flora and fauna species.

Current land use activities include forest conservation (850ha), plantation forestry (320ha), cattle grazing (100ha), recreational and educational pursuits.

The Nightcap proposal has the potential to set benchmark standards for ecologically sustainable development in the Tweed. The balance landholdings are essential for Village self-reliance in water, effluent treatment and food production and these areas form part of this development application.

The balance of the land can only serve to enhance the Village and its longer term sustainability through eco-tourism activities such as camping, walking, education and wood selection for craft. The proximity of the adjoining National Park and the feature known as Central Hill are formidable attractions.

An assessment of current land use and future land use options for the balance of the land have been prepared by Dr. Steven Philips of Biolink (see Nightcap Village – Integration of village concept with surrounding land use in Volume 2).

5.13 Development and infrastructure staging

The indicative development sequence and infrastructure staging is depicted in **Figure 5.5.**

The development sequence is envisaged in three main stages – the north, the northeast and the southern precinct. An investment of some $15 million will be required before development can commence. The sequence envisages the establishment of central Village infrastructure including the Main Street and Town Square in the first stage.

The timing of development and infrastructure will depend on the preparation of Precinct Plans, development take-up and development arrangements but an indicative chronology might be:

- Stage 1 – 5 to 8 years
- Stage 2 – 7 to 12 years
- Stage 3 – 10 to 15 years

FIGURE 5.5
Indicative Development Sequence and Infrastructure Staging

STAGE	DEVELOPMENT	INFRASTRUCTURE
1	A. Mixed Village including the Town Square B. Northern Village Lots C. Northwest Village Housing D. North Mixed Village	1. Roundabout on Kyogle Road 2. Tweed River West Bridge 3. Mebbin National Park Road 4. Main Street 5. Village Green 6. Water storage and stormwater treatment 7. Sewer treatment plant and pump station
2	E. Northeast Village Lots F. Northeast Village Housing	8. Village Oval 9. Parking Area
3	G. Main Street Mixed Village H. Oval Village Housing I. River Village Housing J. Tourism Uses	10. Tweed River East Bridge 11. West Road 12. Kyogle Road parking area 13. Oval parking area 14. Market Garden 15. Tweed River footbridge 16. Market Garden footbridge

The Strategic Framework

06

6.1 Coastal growth is dominant – even in the Tweed

While Nightcap is already zoned for Residential Village development, it is important to look at the strategic context for Nightcap's development.

In *"The Big Shift – Welcome to the Third Australian Culture"*, demographer Bernard Salt documents the movement of people from the bush to the big cities and more recently to regional coastal areas such as the Tweed. Throughout, rural areas have not been able to keep or attract people – and young people are the first to move from rural hinterlands and move permanently.

Even though the Tweed has one of the most attractive hinterland environments in Australia, the growth imbalance between the coast and the hinterland is still marked and the Draft Regional Strategy (see below) estimates that if current trends continue, 75% of the Region's future housing would be on the coast *"leading to further pressure on existing infrastructure services and sensitive coastal environments"* (p.14).

The NSW Department of Planning recently released population projections which predict a continued fall in the residential population of the Kyogle area of 300 people (3%) over the next 10 years, with a consistent decline in resident population by 9% (880 people) to 2031. Many of these people will move to the coast.

Salt's answer is to encourage "tree change" and make rural living "fashionable". Some rural villages are attracting more population and employment. Villages such as Uki, Bangalow, Montville and Maleny are fashionable and becoming vibrant communities once again.

Making Nightcap "fashionable" and known for its sustainability, liveability, state of the art design and environmental responsibility, is the essence of the Nightcap Concept Plan. We believe that any other approach will be unsuccessful.

6.2. The regional policy framework – the Draft Far North Coast Regional Strategy

Whilst planners and civic leaders have often lamented strong growth and the suburbanisation of the coast, until recently we have not identified strategies that provide real alternatives to this growth. We have acknowledged that rural towns are attractive places to live but have often discouraged growth for fear of losing the character of towns – the reason for their attractiveness in the first place.

The Draft Far North Coast Strategy (NSW Department of Planning, March 2006) identifies the Nightcap site as an Existing Urban Area as shown in **Figure 6.1**. The boundaries of the Urban Area follow the Tweed LEP boundaries for the 7 (d) Residential Village zone.

A central aim for the Strategy is to develop **"a region of villages"**:

> *"The Region's diversity of lifestyle, economic and social opportunities is reflected in a unique variety of local cultures and individual communities. These communities, together with Region's strong rural heritage and economy and the richness of its natural environment, support its potential to further develop as "a region of villages".* (Draft Strategy p.4).

The Draft Strategy describes a village as a place that:

- *"can accommodate more than 500 people*
- *may be coastal, rural or urban*
- *has a strong sense of community*
- *is generally walkable, with possibly a school, community hall, local shops and a park." (p.4).*

The plan for Nightcap is based on traditional rural village values and well fits this description. It aims to develop a strong sense of community through environmental, employment and social self-reliance. Walkability is a feature of the Nightcap design with pedestrian paths to central facilities and services and central parking areas to keep vehicular traffic to a minimum. Local shops, parks and community facilities are all centrally located, however, population thresholds in this locality do not bring about the need for a school.

The Regional Strategy plans for an overall population of 289,000 people by 2031 – an additional 60,000 people for the region. The strategy acknowledges that the strongest growth pressures are around the coastal centres of Tweed Heads and Ballina and that:

> *"Initiatives to support and maintain the development of inland settlements are necessary to reduce coastal population growth pressure". (Ibid p.5)*

The population and housing challenges for the region listed in the Draft Strategy are to:

- *"manage population growth in a way that retains village character, enhances a sense of community, prevents urban sprawl, and minimises damage to environmental values and rural production*
- *support the development of inland centres*
- *provide housing choice and affordability in the right locations reflecting the changing population and associated reduction in household occupancy rates." (Ibid p.6)*

The development of Nightcap will help redress the imbalance between coastal growth and rural decline, provide much needed rural employment in construction, ongoing Village maintenance and permanent Village jobs in ecotourism, home-based and other employment, and, provide greater choice and affordability in housing in the area.

The Draft Regional Strategy defines "Threshold Sustainability Criteria" for any proposed development outside designated urban areas. Whilst these criteria do not apply to Nightcap, given that Nightcap is already within a designated urban area, the criteria are a useful yardstick for Nightcap's development. Strategy Criteria and responses are shown in **Table 6.1**.

The development of Nightcap Village is specifically provided for in the Draft Regional Strategy and the planning and development principles for Nightcap Village squarely address the sustainable development principles that are set down in the Strategy Plan.

FIGURE 6.1

Draft Far North Coast Regional Strategy

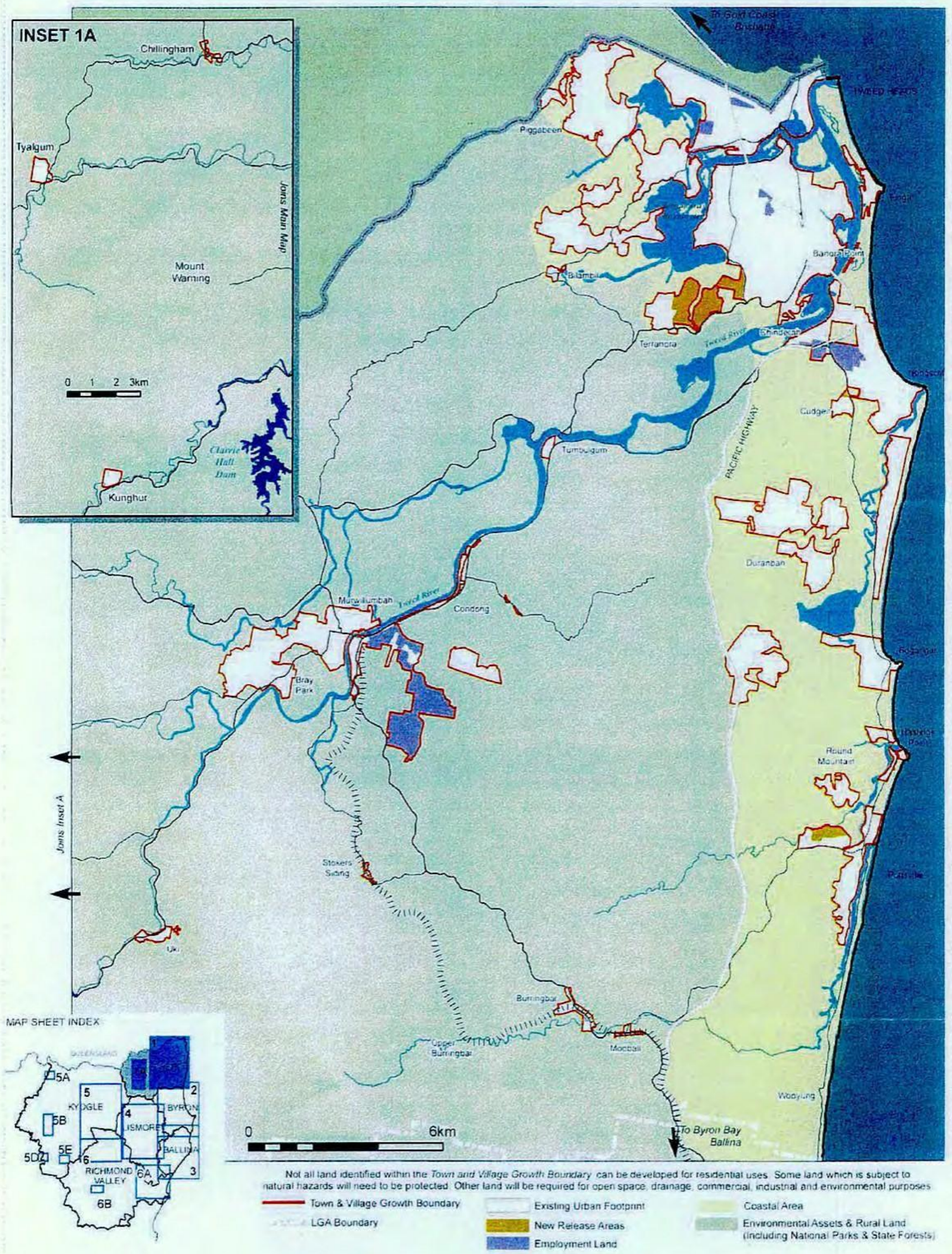


TABLE 6.1

DRAFT REGIONAL STRATEGY SUSTAINABILITY CRITERIA

Regional Strategy Sustainability Criteria[1]	Nightcap Response
1. Infrastructure Provision Mechanisms in place to ensure utilities, transport, open space and communication are provided in a timely and efficient way.	Water, sewer, drainage, road, pedestrian, open space and communication services provided on site by the developer. Nightcap infrastructure and facilities maintained by the Nightcap Owners Corporation. Development contribution to Uki-Kyogle Road. Staged provision of infrastructure in accordance with Nightcap DCP. Minimal public contribution to the village
2. Access Accessible transport options for efficient and sustainable travel between homes, jobs, services, and recreation existing or provided.	Village designed to be pedestrian friendly with minimal internal car trips. Central village employment, commercial, community facilities and recreation facilities. Subsidised bus service to Uki in the early years of development.
3. Housing Diversity Provide a range of housing choices to ensure a broad population can be housed.	Housing diversity is a feature at Nightcap including detached housing on smaller and larger lots, centrally located semi-detached housing and units and "shop-top" housing.
4. Employment Lands Provide regional/local employment opportunities to support the Far North Coast's expanding role in the wider regional and NSW economies.	Local employment provision is a feature of the Nightcap plan including: Eco-tourist facilities Conference facilities Village employment based on local trade and service development Utilities maintenance on-site
5. Avoidance of Risk Avoid land use conflicts and risk to human health and life.	Precinct Plans including urban design detail will help minimise land use conflicts. No development within 1:100 floodplain or unstable/steeper slope areas. Two evacuation routes for bushfire.

TABLE 6.1

DRAFT REGIONAL STRATEGY SUSTAINABILITY CRITERIA

Regional Strategy Sustainability Criteria[1]	Nightcap Response
6. Natural Resources Natural resource limits not exceeded and environment al footprint minimised.	Water collected on-site through building collection and recycling and supplemented by on-site storage and treatment. Effluent treated on-site to tertiary level using membrane technology and used for open space and wood lot irrigation. No impact on significant agricultural land or extractive resource lands
7. Environmental Protection Protect and enhance biodiversity, air quality, heritage and waterway health.	Significant flora and fauna protected. Steeper areas planted with indigenous vegetation. Tweed River frontage revegetated and protected. Water collection, stormwater treatment and effluent disposal designed to have minimal environmental impact and maximise recycling.
8. Quality and Equity in Services Quality health, education, legal, recreational, cultural and community development and other government services are accessible.	Services will meet or exceed thresholds for a population of 1,000 people. Higher level services available in Uki and Murwillumbah.

[1] As contained in Appendix 1 of the Draft Regional Strategy.

6.3. The Tweed Shire strategic framework – Tweed 4/24

Tweed 4/24 contains no specific reference to the Residential Village zoning at Nightcap (Kunghur) but sets important broad directions for the Shire. Key elements of the strategy that have particular relevance to Nightcap are summarised below.

Sustainability – retain the special character of the Tweed and use sustainability as an over-arching principle.

The development of Nightcap thoroughly embraces sustainability principles through self-sufficient and totally integrated water cycle and waste management, mixed housing, a strong emphasis on local employment and the development of special village character based on traditional values but with a current urban design vernacular.

Triple bottom line – balance economic, social and environmental objectives.

The success of Nightcap will be judged by a triple bottom line balance. Local employment based on eco-tourism is an essential component of the Nightcap development strategy. Social objectives require a mix of design and affordability in housing and a village design centred on active public spaces – the Town Square, the Village Green and the Village Oval. Environmental objectives include rehabilitation, additional planting and protection of sensitive areas on the site and complementary environmental practices on the adjoining rural property.

Water Resources – conserve water resources.

Nightcap will be self-sufficient for potable and recycled irrigation water and does not draw supply from a source external to the Van Lieshout property.

Rural Change – addressing the decline of rural industries.

Nightcap's development, on-going maintenance and eco-tourism employment initiatives will provide much needed employment for the Uki, Kyogle and Nimbin areas.

Housing Affordability – new housing for purchase and rental for middle and lower income groups.

A mix of village housing design and affordability is a key feature of the Nightcap proposal.

Land Use Structure Plan and Urban Design Framework – guidelines to provide the highest standards of urban and rural land use.

The Nightcap proposal is a total concept plan for the development of the Village in the form of a Development Control Plan, which will be further refined in detailed Precinct Plans to maintain design standards and development coordination.

Infrastructure – ensure adequate provision of infrastructure and minimise the government cost in servicing development.

Road, bridge, pedestrian, active and passive open space, water, sewerage and drainage infrastructure will be provided by the developers of Nightcap and be maintained by the Nightcap Owners Corporation as set down in the Concept Proposal and DCP.

Management and Monitoring – making sure that the development direction is maintained.

The Concept Plan and DCP for Nightcap provide for an ongoing partnership between the proponents, the Nightcap community and Council to monitor development and environmental progress.

The proposed form of rural settlement at Nightcap is entirely in keeping with sustainable development philosophy that is emphasised in Tweed 4/24.

Nightcap will be more ecologically sustainable, more environmentally responsible and less costly in terms of infrastructure and amenity than coastal or suburban development. Moreover, it will help arrest population, employment and service decline in the Kyogle area.

Planning Assessment

07

7.1 Overview

This section reviews the planning assessment framework for Nightcap Village – primarily the Tweed Local Environment Plan and the Development Control Plans under the umbrella of the LEP.

Social and economic, environmental, and engineering and traffic assessments are contained in the following chapters.

The State strategic framework – the Draft Far North Coast Regional Strategy – provides for, and supports the Nightcap Village proposal (Section 6.2).

The proposal is in keeping with the strategic directions of the Tweed 4/24 Strategy (Refer Section 6.3).

The Village site is zoned 2(d) Village Residential under the Tweed Local Environmental Plan 2000 which is entirely compatible with the proposal.

There are a number of provisions in the Tweed Local Environment Plan which need to be addressed as part of the assessment of this proposal and these are addressed in Section 7.4 and listed in detail, with responses, in Appendix 2.

The provisions of Tweed Development Control Plans which are relevant to the site are summarised in Sections 7.4 to 7.12. At this stage, given the conceptual nature of the proposal, no assessment can be made against all the development standards in the Development Control Plans.

There are some points of potential conflict as would be expected with an entire village proposal. These points are identified but substantial compliance with existing DCP's is expected.

The Nightcap Village Concept Plan is envisaged as the key planning instrument for the proposal and is summarised below.

7.2 Nightcap Village Concept Plan and draft component of the DCP

The Concept Plan covers all the proposed elements of the concept as outlined in Section 5 and is contained in full in Appendix 1. It includes the following:

- The **Aims** of the plan.
- The **Relationship** of the plan to other Tweed DCP's.
- The **Vision** for Nightcap Village.
- The **Village Concept Plan** including the delineation of precincts and concept plan objectives.
- **Precinct intents, objectives and acceptable solutions**. These set the framework for precinct development and the preparation and approval of detailed Precinct Plans and individual development applications. This sets in place a hierarchy of development approvals for development.
- **A Development and Infrastructure Staging Plan** to ensure the sequential and orderly provision of infrastructure, services and development.
- The delineation of **Master Lots** which can be developed separately provided that a Precinct Plan has been prepared and proposed development is in accord with the Staging Plan.
- A **Management Plan** which sets out requirements for the responsibility and provision of infrastructure and other matters, including land outside the Nightcap Village boundary, and which contribute directly to the servicing and amenity of the Village.

7.3 Relevant planning instruments

The site and the proposal are subject to a number of local, regional and state planning instruments. The primary documents include the following:

State and Regional Provisions and Policies

- Environmental Planning and Assessment Act 1979
- Draft Far North Coast Regional Strategy 2006 (see Section 6)
- BASIX 2004 – Draft SEPP on Building Sustainability

Tweed Shire Council Provisions and Policies

- Tweed Local Environment Plan 2000
- Tweed Shire Strategic Plan 2000+ (see Section 6)
- Tweed 4/24 Strategic Plan (see Section 6)
- DCP 2 – Site Access and Parking Code
- DCP 6 – Multi-Dwelling Housing
- DCP 16 – Subdivision Manual
- DCP 39 – Energy Smart Homes
- DCP 45 – Socio-Economic Impact of Development
- DCP 47 – Cut and Fill on Residential Land

7.4 State Planning Provisions

Environmental Planning and Assessment Act 1979

The matters of consideration in the assessment of a consent application are identified in Section 79C of the Act and relate to:

- any environmental planning instrument, development control plan and applicable regulation;
- the likely impacts of the development;
- the suitability of the site for development;
- any submissions; and
- the public interest.

The applicable planning and environment instruments are addressed in:

- Section 6 – The Strategic Framework;
- Section 7 – Planning Assessment;
- Section 8 – Social and Economic Assessment;
- Section 9 – Environmental Assessment; and,
- Section 10 – Engineering and Traffic Assessment.

Technical reports relating to these assessments are included as Volume 2 of this application and are summarised in the relevant sections of this report.

BASIX 2004

BASIX sets sustainable housing targets for new homes in NSW through the use of a combination of features including rainwater tanks, water-saving fixtures, improved insulation, passive solar orientation, natural lighting and native plants for gardens.

The concept for Nightcap Village envisages totally integrated water cycle management which is self-reliant and exceeds BASIX requirements. Solar orientation, natural air flow ventilation and dwelling groupings will be designed to minimise energy usage.

BASIX and the Tweed Shire's DCP – 39 Energy Smart Homes, are addressed in the Urban Design Report by Malcolm Middleton Architects in Volume 2.

7.5 The Tweed Shire Local Environment Plan

The Tweed LEP provides the development framework for the Shire and details of Nightcap Village Concept Proposal compliance with each of the relevant provisions of the LEP is contained in **Appendix 2** to this Volume. The most important provisions and responses are as follows.

The Aims of the Plan and Ecological Sustainable Development (Clauses 4 and 5)

The Nightcap proposal is consistent with the aims of the Plan and ecologically sustainable development in that the proposal is:

- consistent with strategic plans;
- detailed environmental studies provide a sound, conservative basis for development; and
- the costs of the development will be borne by the proponent and the Village Owners Corporation and Tweed Shire and state expenditure will be minimised.

The 2(d) Village Zone (Clause 11)

Council can only consent to development if it is satisfied that the development is consistent with the primary objective of the zone within which it is located.

Almost the whole of the proposed village is contained within the 2(d) Village Zone. The primary objective of this zone is:

> *"To provide for residential development and a full range of services and facilities traditionally associated with a rural village which is of a design and scale that makes a positive contribution to the character of the village."*

The zone objective is entirely in keeping with the Nightcap Village proposal.

The Village Zone provides for a range of uses, subject to Council consent, that may be found in rural villages including environmental facilities such as boardwalks and walkways, mixed residential buildings including multi-unit dwellings, community buildings, shops, restaurants, offices, rural industries, public utilities and tourist accommodation and facilities.

These uses are also entirely in keeping with the Nightcap Village proposal.

Request for dispensation to allow building on less than 450m² allotments under special circumstances.

Whilst nearly all of the provisions of the 2(d) Village Zone are compatible with the Night Concept proposal, detached dwellings on smaller lots are not allowed. The provisions provide for townhouses and units but do not provide for single dwellings on allotments of below 450m2. We believe that there is good reason to allow dispensation for Nightcap Village and to allow some building on allotments of below 450m2 for the following reasons:

- Nightcap is a new community and the dispensation would affect no existing residents.
- There is a growing market for smaller-lot dwellings and it increases the supply of more affordable housing.
- Lots of less than 450m2 would be located in the Village Housing and Mixed Village areas where there will be an expectation of greater density and activity and where there are large areas of adjacent open space.
- All lots of less than 450m2 would be subject to consent on house design parameters and building footprints.

A suggested site-specific amendment to the LEP is contained in Section 3.5.

Rural 1(a) zone (Clause 11)

The Rural 1(a) zone includes the rural land to the north and west of Nightcap Village which is intended to be used for complementary village infrastructure including part of the market garden, woodlots for effluent disposal, water storage and the sewerage treatment plant.

None of these uses conflict with the primary or secondary objectives of the zone and are allowed with consent.

Development near zone boundaries (Clause 14)

Clause 14 provides for:

> ..."*flexibility where detailed investigation of a site and its surroundings reveals that a use allowed on the other side of zone boundary would enable a more logical and appropriate development of the site.*"

The provision provides for a 50 metre leeway for consent uses in the 2(d) Village Zone where they may encroach on the 1(a) Rural Zone provided that the *"proposed development is more appropriate, due to planning, design, ownership or similar criteria, than would otherwise be allowed."*

Two factors of general consideration are that the Nightcap Village and surrounds is in single ownership and development is proposed on only 54% of the residentially zoned Village area. The remainder of the site is proposed for conservation, rehabilitation and open space.

A 50 metre extension to the Village Housing area on the north side of Mebbin National Park Road is proposed given that the land is particularly suited to that purpose and is logical. There are no environmental or servicing constraints on this land.

In addition it is proposed that bushfire protection zones be located on the outside of 2(d) Village Zone boundaries where adjacent to residential development and where land is held by the proponent. This use is permissible in the Rural Zone.

Other matters

Other important matters in the LEP are as follows:

- Availability of essential services (Clause 15) – water and sewerage provision and treatment is specifically addressed in Chapter 10 of this report. The arrangements involve proven and environmentally responsible technologies and do not rely financially or physically on external support.
- Social and economic impacts (Clause 17) – these are addressed in Chapter 8.
- Development adjoining water bodies (Clause 31) – these requirements are addressed in Chapter 9 in the ecological and flood assessments of the site.
- Flooding (Clause 34) – addressed in Section 9.4.
- Bushfire Protection (Clause 39A) – addressed in Section 9.5.
- Archaeological impacts (Clause 44) – There are no known Aboriginal objects or places on the site. Detailed investigations will be undertaken as part of the preparation of Precinct Plans.

7.6 Tweed Shire Development Control Plans

The Tweed LEP incorporates a number of detailed DCP's which will guide the development of Nightcap Village together with the proposed Nightcap Village DCP. The important DCP's are:

DCP 2 – Site Access and Parking code

DCP 5 – Development of Flood Liable Land

DCP 6 – Multi-Dwelling Housing

DCP 16 – Subdivision Manual

DCP 39 – Energy Smart Homes

DCP 42 – Public Notification Policy

DCP 47 – Cut and Fill on Residential Land

DCP 45 – Socio-Economic impacts of development

The most important provisions contained in these DCP's, particularly DCP 16, are addressed in the following sections and in the Technical Reports in Volume 2 of this application.

This application, however, seeks no actual development approval and as such does not attempt to address every detailed development requirement. This will be left to detailed Precinct Plans and development applications for individual land parcels within Nightcap Village as provided for in the Draft DCP.

7.7 DCP 16 – Subdivision Manual

The following section responds to the more important considerations for the use and development of Nightcap Village which are contained in Chapter 4 of the Subdivision Manual.

Section 4.2 – Physical and environmental constraints

These are addressed in the environment and engineering assessments in Chapters 9 and 10 of this report. In summary:

Slope
Slope varies on site from flat to undulating close to the River rising to undulating and steeper land on the northeastern and northwestern parts of the Village site. 53% of the site has a slope of less than 17% and 78% of the site less than 25%. The steeper areas are along gullies and in the western portions of the site. These areas are generally proposed as open space or for land rehabilitation.

Contamination
There is no evidence of contamination on the site.

Landslip and subsidence
Geotechnical investigations indicate there is unlikely to be risk of landslip or subsidence in development areas. The Potential Hazard Classification of the site is "Class C: Minor Hazard in accordance with Appendix E of AS 1726". A geotechnical report by Australian Soil and Concrete Testing is included in Volume 2.

Bushfire risk
A Bushfire Management Plan has been prepared by Cardno in accordance with the Subdivision Manual and is contained in Volume 2. Most of the Nightcap site is cleared and a loop road system will assist fire fighting access and safe egress from the site. Asset protection zones are proposed outside the existing 2(d) Village Zone boundary where land adjoins proposed development areas and where land is owned by the proponent (see Section 7.4 Development near zone boundaries).

Threatened species
Whilst the site is largely cleared, significant wildlife species and ecological communities recorded on the site include a specimen of the Green-leaved rose walnut, Koala habitat and two vegetation communities associated with the Tweed River, which are considered broadly analogous with Endangered Ecological Communities listed under the provisions of the Threatened Species Conservation Act.

The aim of the Concept Plan is to have a positive impact on significant habitat through the protection of significant areas, additional planting and rehabilitation on the site. This is addressed in the Environment Assessment in Chapter 9.

Littoral rainforests
The Village land has only isolated remnants of rainforest in the Tweed River riparian area. These areas are proposed to be protected and suitably buffered and the land is not impacted by State Environmental Planning Policy No.26 Littoral Rainforests.

Koala habitat
There is evidence of koala activity on the site primarily along the Tweed River riparian corridor and this is to be protected and planted with additional endemic plant species. Koala feed trees within the riparian corridor and scattered feed trees outside the corridor are to be protected. Given this protection and additions to existing habitat, and the current amount of clearing on the site, a koala management plan under State Environmental Planning Policy No.44 is not considered necessary.

Significant vegetation
The site is predominately clear and grazed. Vegetation is represented by riparian flora along the Tweed River, isolated clumps of trees and pasture grasses. The Ecological Assessment in Volume 2 concludes that a Species Impact Statement under the Threatened Species Conservation Act is not required.

Landscape visual character
The scenic impact of the Concept Plan is addressed in the Urban Design and Visual Assessment Report in Volume 2 by Malcolm Middleton and Associates. The layout of the village is illustrated in the perspectives and the great advantage of Nightcap as a Village site is the screening of the Village from the Kyogle Road by riparian vegetation along the Tweed River.

Acid sulphate soils
There is no evidence of acid sulphate soils on the site.

Heritage or cultural items of Aboriginal or European origin
There are no known items of Aboriginal or European heritage on the Village site.

Landforming
An Earthworks Management Plan has been prepared by Cardno and is included in Volume 2.

Details of earthworks for development stages will be contained in Precinct Plans and subsequent development applications. Steeper parts of the site have been generally precluded from development but some benching will be required.

Water sensitive urban design, stormwater and drainage
Stormwater drainage and facilities design parameters will be detailed in Precinct Plans and subsequent development applications in accordance with the Shire's "Development design Specification D7 – Stormwater Quality". The overall approach is documented in the Stormwater Quality Assessment which is summarised in Chapter 9 and contained in Volume 2.

The central lake storages will provide for the treatment and reuse of much of the developed area run-off, supplemented by stormwater treatment facilities to intercept runoff between the developed southern slopes and the Tweed riparian corridor.

The development is proposed to be constructed in three stages with each stage being self-sufficient in terms of runoff quantity and quality. All stages will include rainwater tanks for roof areas, buffer strips to treat lot drainage, bioretention swales and gross pollutant traps to remove litter and debris. All runoff will filter through bioretention basins before entering receiving waters.

Waterways and watercourses
The natural alignment of all watercourses is retained in the Concept Plan. Waterways, water bodies and riparian areas are clearly identified and a 50 metre minimum riparian buffer is to be retained and enhanced through planting along the Tweed River. Watercourse setbacks will comply with riparian buffer widths contained in Table 4.23 of the Subdivision Manual.

Existing native vegetation along watercourses is to be retained and supplemented with new indigenous species planting and there are no proposals to convert natural watercourses to artificial drains.

The design and works involved in the building of the two access bridges over the Tweed River will need to minimise riparian damage and comply with the Fisheries Management Act and General Regulation. No bridge design has been prepared at this stage.

Flood liable land
Flood liable land on the Village site is situated on the flatter land adjacent to the Tweed River. A small area of potential inundation floodplain is required to be filled in the Village Housing area to the west of the proposed conference centre to provide for continuous development. This is a minor area and is addressed in the Flood Study by Cardno contained in Volume 2. The filling will be in accordance with the requirements of *DCP No.5 – Development of Flood Liable Land.*

Buffers
Bushfire and watercourse buffers were addressed in the previous discussion. Appendix E of the Subdivision Manual recommends buffers to certain types of land use. The following are relevant to the Nightcap Village proposal:

- Pesticides – recommended buffers can be complied with given that adjoining land is substantially owned by the Van Lieshout family.
- Noise, dust and odours from intensive agriculture – there are no existing or planned intensive farming activities adjacent to the site.
- Cattle dips – there is a cattle dip towards the centre of the Van Lieshout property but it is well outside the designated 200 metre buffer zone.
- Extractive industries – there is no current quarry activity in the area.
- Forestry – forestry activities are not within 200 metres of proposed residential buildings, although the proposed health centre would be some 150 metres from a plantation on the southern side of the Kyogle Road.
- Sewerage treatment works – the membrane tertiary sewerage treatment plant for the Village is proposed to be located in a disused quarry some 500 metres from the northern boundary of the Village site. This is the recommended buffer distance for primary and secondary process plants.
- Garbage tips – no garbage tip is proposed on the site or on adjacent land.

Section 4.3 – Urban Structure

Criteria for neighbourhoods and towns

The Subdivision Manual sets out a number of logical urban structure objectives and criteria for master plans for neighbourhoods and towns. Many of these are addressed in the Urban Design Report by Malcolm Middleton Architects in Volume 2. The relevant criteria for neighbourhoods and towns are listed below with summary comments on Nightcap Village compliance.

- *"Highly interconnected neighbourhoods and towns."*

The development precincts at Nightcap are well connected by a loop road system and pedestrian paths will link to the town square and central mixed use precinct.

Foot bridges are proposed to provide access from the Kyogle Road car park and across to the market garden.

- *"Neighbourhood size and shape to be defined by an acceptable walking distance."*

The entire village is within 400 metres of the town square and central mixed use precinct.

- *"Town and neighbourhood centres act as a community focus."*

Commercial, eating, business and more intense residential activity is proposed around the town square and main street. The mixed use precinct is situated between the oval and village green to centralise and combine village activity and open space use.

- *"Town and neighbourhood centres are located on or at the intersection of important streets served by public transport."*

The Village centre is located on the main street opposite the oval. This is the main destination for tourists and bus traffic. A public transport system within Nightcap is considered unviable given a population of about 1,000 people.

- "Activities are co-located to create the opportunity for multiple use of facilities such as car parks."

This is an important principle for Nightcap – to promote pedestrian movement and minimise car traffic on village streets. Central car park areas will service the main activity areas including the town square, the oval, the village green and conference centre and double-up as visitor parking for Village Housing and Mixed Use Precincts.

- *"An interconnected, easily navigable and logical street network with strong links between town and neighbourhood centres that has good route choice and detailing to make walking and cycling pleasant, efficient and safe."*

Links between neighbourhoods allow for separation of pedestrian and car traffic, or a mix on streets with a maximum vehicle speed of 40 kmh. The loop road system is designed for the topography but will be easy to navigate.

- *"A range of residential densities that increase towards neighbourhood and town centres."*

The intended dwelling densities are a gradation from 15 dwellings per hectare in the Village Lot Precincts in the northern Village area increasing to nearly 30 dwellings per hectare in the Mixed Village Precinct near the centre of town.

- *"Local traffic movements are focused onto local streets rather than arterial roads."*

The Kyogle Road will carry no local Village traffic.

- *"The layout should provide a choice of clear and multiple links to adjoining and future urban areas and regional open space."*

Links to adjoining urban areas are not applicable to Nightcap, but walking and low key vehicle links to the Mt Warning and Mebbin National Park are part of the proposal.

- *"As many pedestrian and cycle linkages as possible are provided and road linkages have a strong pedestrian and cycle component."*

See comments above relating to links between neighbourhoods.

- *"Rear lanes are provided around neighbourhood or town centres to enable rear parking to facilitate small lot development with frontages to the street."*

The Mixed Village precinct will feature rear lanes as access for commercial and business uses and small lot and unit housing. The use of rear lanes is important for main street pedestrian activity and built-to-boundary street presentation.

- *"Land use allocation should provide for jobs within the neighbourhood by including sufficient land and appropriate street and lot layout for a wide variety of business and home-based business development opportunities, arranged to minimise land use conflicts."*

A strong mix of residential, business, commercial and showcase trade and studio activities is an essential aim in the central Mixed Village Precinct. Landscaping, rear lane access, shop-top housing and a variety of building styles will help develop this environment and increase job opportunities.

The proposed tourist facilities including conference centre, backpackers, the pub and the oval for rallies and community events, will add job opportunities together with outdoor recreation and camping in the surrounds.

- *"Street and lot layouts should provide for perimeter blocks that are generally in the range of 70 – 120 m deep by 120 – 240 m long."*

The Village Lots Precinct will substantially meet this criterion. The Village Housing and Mixed Use Precincts will well exceed it.

- *"There are preferably 15 dwellings per hectare (excluding parkland) within a 5 minute walk or 450 metres from a neighbourhood centre."*

It is intended that the Village Lots Precinct will be developed at about 15 dwellings per hectare and the Village Housing and Mixed Use Precincts at generally between 20 and 28 dwellings per hectare.

Nightcap well meets the relevant Neighbourhood and Town Structure criteria in the Subdivision Manual.

Movement network

Nightcap Village Precinct Plans will address specific criteria in the DCP relating to road design. The following general points are made on the Concept proposal:

- The maximum speed within the Village is envisaged as 40 kmh and 15kmh in laneways as recommended in the DCP.
- The road system within the Village will be managed and maintained by the Village Owners Corporation.
- Streets will be designed to encourage pedestrians and cyclists and shared zones are envisaged for the Mixed Village precinct.
- Visitor parking is encouraged in locations near the Village centre and near the entrance to the site on either side of the Tweed River. This will help to reduce through traffic and encourage walking.
- A grid street layout is (unfortunately) not suitable for the site and its topography but a well defined loop system with direct pedestrian connections appears very workable and will maximise views, precinct sight separation and landscaping opportunities.
- Rear lanes are an essential component of the Mixed Village Precinct.
- General compliance with lane and access street widths is envisaged although lesser pavement widths than recommended in the DCP may be suitable if detailed designs are prepared and agreed by Council.
- Built-to-boundary street frontages are envisaged in the Mixed Village Precinct.

Open space network

Active and passive open space comprises 20.6 ha or 42.7% of the Village area (excluding the market garden) and is in excess of requirements specified in the DCP. The distribution of open space is shown in the Table below.

The Oval and the Village Green are the primary community open space areas and are centrally located. They will be overlooked by residential and mixed development. The riparian corridor along the Tweed River will have a pedestrian and cycle path amongst the trees.

The lake frontage to the north of the town centre is also an important open space link and passive recreation area.

It is envisaged that active, passive and environmentally sensitive open space areas will be owned and managed by the Nightcap Village Owners Corporation.

The Open Space, Environmental Open Space and Rehabilitation Precincts will require the approval of Precinct Plans before any development works.

TABLE 7.1

OPEN SPACE PROVISION AT NIGHTCAP VILLAGE

Category of Open Space	Area Requirements in DCP 16	Nightcap Provision
Environmental Open Space	Site Dependent	18.8ha including the vegetation rehabilitation area and some park area
Casual Parks	1.13ha per 1000 persons	>2.0ha comprising Village Green, lake frontage, neighbourhood open space
Sports Playing Fields	1.7ha per 1000 persons	Village Oval and surrounds exceeds 1.7ha

Lot Layout and Community Facilities

The Concept Plan addresses the general requirements of the Subdivision Manual by:

- The intended provision of a variety of lots and building types to meet different housing needs.
- The provision of higher density housing closer to the centre of the Village.
- Proposing a lot orientation which is suitable for the topography and the climate (see the Urban Design Report by Malcolm Middleton in Volume 2).
- Accommodation of mixed use development close to the centre of the town.

Dedication of lots for public use (eg. community centre, public hall, place of worship), as required by the Subdivision Manual is to be the subject of negotiation with Council. Owners Corporation ownership and maintenance may be preferred by Council.

The code also specifies minimum dimensions for lots in the 2(d) Village Zone and these are shown in **Table 7.2** below with comments relating to the Nightcap concept proposal.

Infrastructure

The key Subdivision Manual requirements for infrastructure in the DCP will be met at Nightcap viz:

- Sealed road to all lots with curb and gutter or design alternatives;
- Water supply, sewerage, underground electricity and telecommunications;
- Drainage that provides immunity from local stormwater flooding and creek and river flows; and
- Utilities and services to be designed to minimise long term maintenance and ownership costs.

The cost of utilities and services to Nightcap will be borne by the proponents and the Nightcap Owners Corporation.

TABLE 7.2

LOT REQUIREMENTS IN THE 2(D) VILLAGE ZONE - DCP 16

Development Type	Lot Size and Building Dimensions	Nightcap Proposal Comments
Dwelling House	Minimum 450m² Minimum building platform of 10x15m	Dispensation requested to provide for lots of less than 450m2 where building and lot design parameters and indicative designs are approved. Dispensation will be requested where buildings are designed for slopes and step up contours (see "Cut and Fill" in Section 7.13).
Dual Occupancy	Minimum 900m² Minimum building platform of 10x15m	Not intended at Nightcap
Integrated Housing	Minimum 750m² Minimum building platform of 10x15m Minimum site area of 250m² Strata subdivision only if less than 450m²	Proposed compliance and in accord with DCP 6 – Residential Development. Dispensation will be requested where buildings are stepped up contours. Proposed compliance. All lots to be strata titles under the Strata Schemes Management Act 1996.
Multi Dwelling Housing	In accordance with DCP 6 – Residential Development	In accordance with DCP 6 – Residential Development

7.8 DCP 2 – Site Access and Parking Code

Site access and parking aspects of the proposal are considered in detail in the Cardno Eppell Olsen Traffic Study contained in Volume 2 and summarised in Chapter 10.

General compliance with the Site Access and Parking Code is envisaged. The following points should be noted:

- The preference for designated general parking areas is to have all-weather, high-bearing capacity porous surfaces to aid infiltration and minimise runoff and discharge of pollutants downstream in accordance with *3.77 Parking Area Construction,* in the DCP.

- General parking areas are to serve multiple uses in the vicinity rather than be tied to a specific use, eg. the use of designated parking areas north and south of the Oval for visitor parks for businesses and residential uses in the Mixed Village Precinct and for sport and recreation uses.

- On-site compliance with resident parking requirements as set out in the code is envisaged.

7.9 DCP 5 – Development of Flood Liable Land

Code requirements are addressed in the Cardno Flood Study contained in Volume 2 and summarised in the Environmental Assessment in Chapter 9.

7.10 DCP 6 – Multi-Dwelling Housing

Multi-dwelling housing sites will be identified in Precinct Plans and have not been designated in the Concept Plan. The Mixed Village Precinct is envisaged as the main area for multi-unit housing together with small lots and integrated housing. Suitable sites would include the Town Square environs and next to the proposed conference centre.

Some small multi-unit sites may be appropriate in the Village Housing Precinct, mixed in with other housing types, and the Draft Nightcap DCP provides for this. Suitable sites are on the northern fringe of the Lake opposite the Town Square, adjacent to the Village Green and overlooking the Oval.

The DCP aims to encourage quality urban design in multi-unit housing up to three storeys in height and promote wider choice and more affordable housing in the Tweed Shire. These aims sit well with the Nightcap Urban Design philosophy as contained in the report by Malcolm Middleton Architects in Volume 2.

7.11 DCP 39 – Energy Smart Homes

The State code BASIX and the Tweed Policy are addressed in the Middleton Report in Volume 2 (see also BASIX 2004 in Section 7.3)

7.12 DCP 45 – Socio-Economic Impacts of Development

There will be considerable socio-economic benefits derived from the development of Nightcap and these are summarised in Chapter 8 and a full Socio-Economic Impact Statement by Derek Kemp of Prosperous Places is contained in Volume 2.

7.13 DCP 47 – Cut and Fill on Residential Land

The minimisation of cut and fill is an essential objective of the "design with nature" philosophy and dwelling design requirements of the code are very much in keeping with the Urban Design parameters, viz:

- *"Dwelling design is to adopt urban design principles that are sympathetic to the topographical features of the site and neighbouring area.*

- *Dwellings must not be designed to be on a contiguous slab on ground type if the building site has a slope of greater than 10%.*

- *Development on such land is to be of pole or pier construction or multiple slabs or the like that minimise the extent of cut and fill."* (Section 2.1).

The broader questions of geotechnical stability and earthworks management are addressed in respective reports in Volume 2. The preliminary investigations indicate that ground conditions on the site are stable. Detailed geotechnical investigations and cut and fill balance will be required for Precinct Plans.

The central Mixed Village Precinct will require benching above the Main Street to accommodate buildings on the slope. The Main Street and frontage is easily developed and contoured benching above will create a very attractive backdrop, and for residents, a view over the Main Street to the Oval and the Tweed River. This will require detailed planning and careful execution.

7.14 Conclusion

The strategic and statutory planning framework for Nightcap is generally very supportive of the Concept Proposal. The Draft Far North Coast Regional Strategy and Tweed 4/24 directions strongly support the development of a vibrant sustainable village at this location.

The design principles contained in Council's DCP 16 Subdivision Manual are also very much in keeping with the Nightcap approach – linked neighbourhoods; the emphasis on pedestrian movement; the protection and enhancement of natural assets; variety in housing types with greater housing density close to central facilities and open space; and, the minimisation of Council and other public costs in servicing the development.

Nightcap Village is envisaged as a contemporary mixed used community and there will inevitably be some conflict with individual provisions in DCP's which are appropriate for traditional detached dwellings on lots of more than 450m2.

The Tweed LEP specification of a minimum lot size of 450 m2 is germane to this issue. This provision very much restricts the housing mix for a vibrant village environment and a site specific amendment has been requested for this.

The Draft DCP (Appendix 1) has the central role in ensuring that any differences between current provisions and the concept proposal are resolved through a hierarchy of development approvals which involve two elements:

- the documentation of any variations to Council DCP standards, and

- the requirement for the detailed design and approval of more intense building forms.

Social and Economic Assessment

08

8.1 Overview

The Nightcap Village proposal will require an estimated expenditure of $15 million in upfront investment in infrastructure. Total infrastructure investment is likely to exceed $25 million or $60,000 per dwelling. This level of investment requires assurance that the development will be accepted by the market and the local community. Market failure will result in a considerable loss and a partial and unsuccessful development of the site which will satisfy no-one. Local acceptance of the project through social and economic benefits, particularly employment and contribution to local community life are essential elements for Village success.

This section summarises the work of Derek Kemp of Prosperous Places who has undertaken a Socio-Economic Impact Assessment in accordance with the Tweed Shire's DCP 45 and an Economic and Employment Needs Report for Nightcap Village. Both these reports are included in Volume 2 of this application.

8.2 Socio-Economic Impact Assessment

The report follows the format and covers the possible impacts of the development set out in Section 6.0 of Tweed Shire Council Development Control Plan 45. The report findings are summarised below.

Social and economic objectives for Nightcap Village are:

- Creation of a sustainable rural village for 1,000 residents as a viable alternative to more coastal development and urban sprawl.
- A high level of employment self-sufficiency and an additional range of local employment opportunities. Importantly "entry level", training and trade jobs for local young people in "new economy", recreational and hospitality businesses, and in local building and construction industries and associated trades.
- The attraction of recreational and day visitors and tourists that will provide business and employment opportunities locally and in nearby centres.
- To take some recreational and visitor pressure off the Mount Warning National Park, by providing alternative natural recreational opportunities and access.
- To provide a greater range of local community, social, retail and recreation opportunities for nearby residents and those living elsewhere in the region.

The key social and economic components of the Village are as follows:

- A high quality, "rural village"' – designed as a quality rural 'life-style' residential community for 1,000 residents and designed to be attractive to "new economy" business founders and their families.
- A very attractive environment – incorporating landscaping and water features – to provide significant, high amenity visitor attractions and recreational settings.
- A "village green" and "town square" – for community activities, festivals and events.
- A range of visitor accommodation – including holiday and weekend rental residences and studios, bed and breakfast accommodation, a hotel and "backpackers lodge" and health care facilities.
- A range of resident and visitor retail and personal services – including quality cafes and restaurants, and *gourmet delis* (with about 1,000 sq m of local retail space).

Key findings of the study:

The proposed form of rural settlement will be more ecologically sustainable, more environmentally responsible, and less costly in terms of infrastructure and amenity than concentrated coastal or suburban development.

The State Department of Planning recently released population projections show a fall in residential population for the Kyogle Area of 300 (3%) over the next ten years, with a continuing decline until the resident population has fallen by 9% (880) by 2031.

Council and the existing businesses and residents of the area, will continue to face increased social and economic difficulties if the projected population decline for the Kyogle area is not addressed.

Projected population decline will result in decreasing demand that will put increased downward pressure on retailing and services presently provided in Kyogle and Uki. It will also put increased pressure on local rates and the economics of providing Council services.

The Village development will redress adverse local demographic conditions by:

- Increasing the local resident population by a projected 1,000. (More than offsetting the population decline currently projected for the Kyogle Area).
- Attracting residents with greater purchasing power and greater disposable income, and young families with greater household expenditure and greater retail and personal services needs.
- Attracting self-employed business people with business and employee needs best met locally.
- Providing recreational and visitor opportunities that will encourage both residents and visitors to spend more time and more money in the Region.

Local employment benefits will be least 155 jobs (permanent, full time equivalent jobs, provided at the Village after its development).

Regional employment benefits will be the creation of at least 230 FTE jobs comprising 155 FTE jobs in the village and flow-on effects that create 80 additional local jobs.

These figures do not include jobs involved in the construction of the Village over an expected 15 year time period.

Projected investment in the Village is estimated at:

- $25 to $30 million in infrastructure including roads, utilities, landscaping, dams and support infrastructure, and
- $100 million in dwellings and other commercial and tourist buildings.

The development will not result in any significant impost on existing human services and facilities.

There should be no noticeable adverse impact on the provision of retailing and personal services elsewhere, either locally or in the Region.

The Village development will increase demand for higher order goods and services supplied from Kyogle, and from other major business centres in the Shire.

Its development will also help to broaden tourist and day visitor attractions of the area, thereby supporting other local businesses and centres with the potential to take some visitor pressure off the Mount Warning National Park.

Employment in retail and service businesses in other centres will be increased by the number of day visitors, tour and coach operators and tourists visiting this part of the Region.

Better balance employment outcomes will result from higher skilled jobs and jobs requiring more modest skills. (Including important "entry level" jobs for local school leavers and training of local young people in the building and construction industries and in rural, craft industries, ecology and bush care skills). The site availability of broadband internet is a significant factor.

The proponents of the village are committed to allowing the perpetual use of the adjoining rural land that they own for rural recreational pursuits and rural and bush care training activities, including team building and personal development activities for disadvantaged groups and young people.

The lands associated with the village will provide a natural part of the Region's important *'Rainforest Way'* network of forest trials and therefore, potentially part of the national network of *'Great Walks'*.

The Nightcap Village will be a very attractive starting and finishing point for less arduous and shorter walks.

Kyogle and Uki and other business centres in the area will benefit from of successful creative and information based businesses founded and incubated at the Village.

8.3 Economic and Employment Needs Report

This report was undertaken to:

- gain an understanding of the local and regional economy and population and employment changes and characteristics of the area, and
- to provide an indication of residential and tourist demand in the area and prospects for success for the project.

A summary of the report is included in Volume 2 and while much of the analysis provided a background for the socio-economic analysis, other key findings were as follows:

- Employment in the area is heavily dependent on labouring, production and transport jobs and needs greater job variety to make the local economy more robust and less susceptible to seasonal downturn. More jobs in tourism, business and professional occupations will create a more sustainable economy.
- Nightcap should aim to significantly increase employment beyond immediate retail and personal services and tap potential to attract self-employed professionals, tourism and value adding craft industries to a new and exciting living and working environment.
- "Character" rural villages such as Bangalow and Mullumbimby are attracting a variety of residents including professionals and semi-professionals.
- Nightcap Village could support the following retail and business floorspace:
  - ~ up to 1,120 m2 of retail floorspace
  - ~ 600 m2 of cafes and restaurants, and
  - ~ 2,500 m2 of small business space.

8.4 Conclusion

The socio-economic studies indicate that the development of Nightcap Village will have a positive social and economic impact for the local area and will significantly increase local employment. More importantly, the Village will assist local economic and social sustainability by increasing the variety of jobs available and investment in the area.

In addition, there appears to be a strong demand for a range of residential accommodation in the area. In the past much of this demand has been met by farm subdivisions and rural residential subdivisions. Nightcap Village represents a far more sustainable way of accommodating rural living and the indications are that the market is ready for it.

Environmental Assessment

09

9.1 Overview

In a Village where sustainability is the key principle, the aim is to work with the environment, protect and enhance its best attributes and respect natural constraints.

Whilst much of the Village site has been cleared and grazed for many years, there are significant constraints within the area zoned for 2(d) Village development. These constraints (and attributes) include slope, vegetation stands and significant flora, koala habitat, riparian vegetation and flooding along the Tweed River, and bushfire management.

Environmental studies of the Village site and surrounds have been undertaken over the last 12 months and provide the framework for Village development. They are contained in full in Volume 2 of this application and comprise the following:

- Geotechnical report for Proposed Building Areas 1,2 and 3, Nightcap Village (Australian Soil and Concrete Testing);
- Ecological Assessment (Cardno);
- Flooding Assessment (Cardno);
- Bushfire Management Plan (Cardno);
- Stormwater Quality Assessment (Cardno);
- Environmental Management Plan (Cardno);
- Draft Earthworks Management Plan (Cardno); and
- Cultural Heritage Search (Davies heritage Consultants).

A further report, *"Nightcap Village – Integration of the village concept with surrounding land use,"* by Biolink, is environmental in nature but is worthy of discussion on its own and is considered in Chapter 11.

9.2 Slope and stability

A slope analysis diagram with an overlay of the Village Concept Plan is shown in **Figure 9.1.** Overall, 53% of the site has a slope of less than 17% and over 77% of the site a slope of less than 25%.

The Village site slopes upward from flatter areas adjacent to the Tweed River to steeper areas towards the western and northern boundaries of the site with a small hill near the centre. This slope pattern points to a logical and very attractive juxtaposition of development precincts with the higher slopes suited to lower density development and the lower slopes for more intensive villages uses. Gully and steeper hill areas have been allocated to greenspace and rehabilitation.

The flatter slope below the central hill is ideally suited to the positioning of a Main Street with mixed development on either side. The remainder of the Mixed Village Precinct above and behind will overlook the Main Street and the Tweed River and will need careful and detailed design to establish building contours and form.

Australian Soil and Concrete Testing undertook a site inspection and borehole tested three areas proposed for development in central western, northern and central hill slopes. The results are contained in their report in Volume 2 and can be summarised as:

- the Potential Hazard Classification of the site is "Class C: Minor Hazard"
- there were no signs of slip or instability at the tested sites.

No potential adverse impacts on the development were identified and but more comprehensive testing will be required for Precinct Plans.

9.3 Ecological assessment

An ecological assessment of the site was carried out by Cardno and their report is included in Volume 2. The majority of the site within the 2(d) Village zone has been cleared for grazing and vegetation is restricted to isolated vegetation stands, mostly in the steeper gullies, and along the Tweed River. Vegetation communities on the site are depicted in **Figure 9.2.**

This limits the extent of habitat but provides the opportunity for replanting and net gain for native flora and fauna on the site as the Village develops.

Despite the extent of site clearing, significant wildlife species and ecological communities were recorded during field surveys:

- A specimen of the Green-leaved rose walnut which is listed as *Endangered* under the *Threatened Species Conservation Act*. This occurs in a Flooded gum open forest in the northwest of the site (Vegetation Community 2 in **Figure 9.2**).
- Evidence of koala habitat and movement along the Tweed River riparian corridor and in the central and north-eastern parts of the site. The Koala is listed as a *Vulnerable* species under the TSC Act.
- Two vegetation communities along the Tweed River which are considered to be analogous to two *Endangered Ecological Communities* listed under the provisions of the TSC Act:
  1. *Lowland Rainforest on Floodplain in the NSW North Coast Bioregion;* and
  2. *Sub-tropical Coastal Floodplain Forest of the NSW North Coast Bioregion.*

The proposal is to protect and expand these significant flora and fauna habitats through additional planting of endemic flora. The current extent of vegetation on the site is to be expanded significantly – particularly along the Tweed River riparian corridor.

FIGURE 9.1
Slope Analysis

Proportion %

0	–	16.67	53.2
16.67	–	25	24.4
25	–	100	22.4

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FIGURE 9.2
Vegetation Communities

LEGEND

- Cadastral boundaries
- 1 Brush box (*Lophostemon confertus*) open forest
- 2 Flooded gum (*Eucalyptus grandis*) open forest
- 3 Flooded gum + Brush Box + Pink Bloodwood (*Corymbia intermedia*) open forest complex
- 4 Hoop pine (*Araucaria cunninghamii*) open forest
- 5 Rainforest and Myrtaceae complex
- 6 Mixed species open forest
- 7 Riparian vegetation
- 8 Cleared land

From an ecological perspective the key elements of the concept proposal are:

1. The protection and expansion of the riparian vegetation corridor along the Tweed River. Weed infestation is to be removed and grassland planted with suitable endemic species to a minimum 50 metre width from the riverbank. The replanting of the area allocated to Environmental Open Space in the Concept Plan will see an addition of approximately 30% to native riparian vegetation.

2. The use of local species for rehabilitation and landscaping works to complement native vegetation on the site. A 2.0ha rehabilitation area is proposed on the slope below the Mebbin National Park Road. This area is currently devoid of vegetation.

3. Protection and additional planting of the clump of Flooded gum open forest, which contains the Green-leaved rose walnut specimen.

4. The retention of other native vegetation including koala feed trees.

5. The implementation of two management plans to ensure ongoing preservation and management of conservation areas – A Threatened Species Management Plan and an Environmental Open Space Area Management Plan.

In terms of compliance with Commonwealth, State and the Tweed LEP biodiversity and conservation regulations, the following should be noted:

- No critical fauna and flora habitats under the *Commonwealth Environment Protection and Biodiversity Act 1999* have been recognised within the site or its immediate surrounding locality.

- The 2(d) Village designation of the site under the Tweed LEP constitutes a residential zone and therefore vegetation clearance within the site is exempt from the provisions of the *Native Vegetation Act 2003*.

- The site is not within an area of declared critical habitat under the *TSC Act* for either the Green-leaved rose walnut or the Koala. It is considered that the development will not have a significant effect on these threatened species and that a *Species Impact Statement* is not required as part of this application given that:

  ~ Koala food trees and habitat areas will beincreased.

  ~ The forest clump which contains the Green-leaved rose walnut will be retained.

- The proposal will not adversely impact on the riparian vegetation which is considered broadly analogous with Endangered Ecological Communites under the *TSC Act*. This vegetation is to be conserved, protected and expanded within the Environmental Open Space Area as shown in the Concept Plan.

- The design and construction of the two crossings over the Tweed River may require approval under Part 7 (Division 3) of the *Fisheries Management Act 1994* and a Part 3A Permit under the *Rivers and Foreshores Improvement Act 1948*.

- Under *SEPP 44 – Koala Habitat Protection*, the site does not represent a core koala habitat, but rather a transitory habitat. The riparian corridor is to be expanded and planted and two species listed in SEPP 44, Forest red gum and Tallowwood, are represented on the site and are to be increased in number. The Environmental Open Space Management Plan and the Threatened Species Management Plan will contain details of this regime.

Overall, the net effect of conservation, rehabilitation and additions to native vegetation along the River and around forest clumps, should see a significant improvement in flora and fauna habitat on the site.

9.4 Flood studies

Rainfall intensity for Kunghur and flood inundation levels on the Nightcap Village site has been established by Cardno. The 100 year flood event is defined in accordance with the requirements of the Tweed Shire DCP 16 and is shown in **Figure 9.3**. The full Cardno Flood Study is contained in Volume 2.

The main area of inundation is along flats adjacent to the Tweed River with a minor area of back-up along the watercourse to the north of the Town Centre. The Village Oval and car park areas will be flood free except for the car park at the Village entrance which would be partially inundated in the 100 year event.

There is a small area of inundation across the proposed Village Housing area below the Mebbin National Park Road. This is a minor area of inundation and for the sake of continuity for development it is proposed to fill this area. This will have no significant impact on development upstream or downstream.

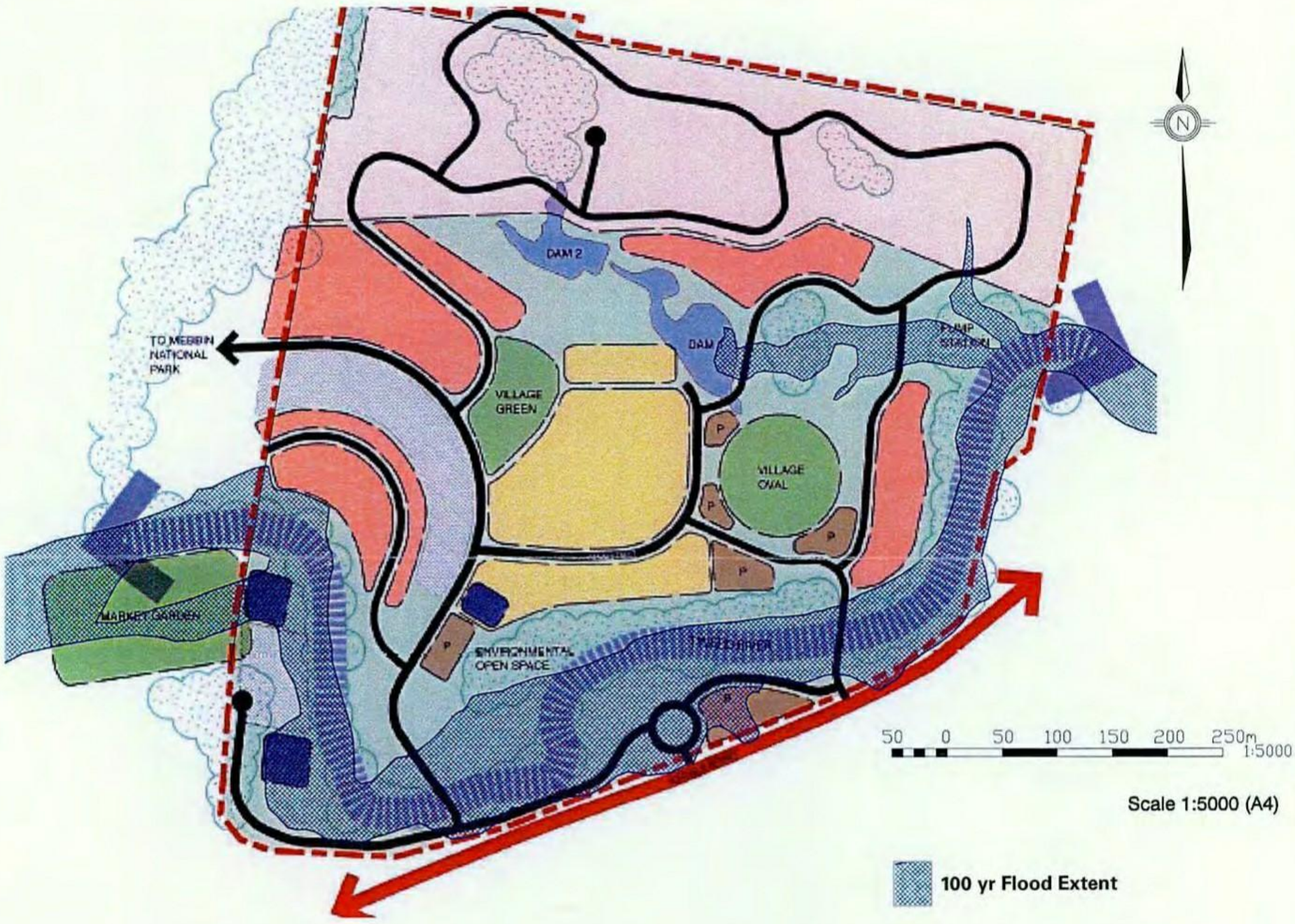
9.5 Bushfire management

A Bushfire Management Plan has been prepared by Cardno in accordance with the *Tweed Shire Council DCP 16 – Subdivision Manual* and s.100B of the *Rural Fires Act 1997* and is contained in full in Volume 2.

The Bushfire Management Plan prescribes Asset Protection Zones around vegetation to be retained and the development envelope. These are shown in **Figure 9.4**. On the northern and western sides of the Village, it is intended that these zones would extend into the surrounding Van Lieshout property and in that sense become part of the Village development.

FIGURE 9.3

100yr Flood Extent Relative to Concept Plan



The Bushfire Management Plan addresses:

- The design and location of streets and fire trails for safe movement for emergency vehicles and evacuation. The proposed loop road system is an important factor in this regard.
- The provision of appropriate perimeter roads outside the Asset Protection Zones.
- The design of lots to promote bushfire protection and appropriate landscaping species.
- Compliance with the provisions of Development Design Specification D10 – Bushfire Protection.

9.6 Stormwater quality assessment

A Stormwater Management Plan has been prepared by Cardno to minimise development impacts on water quality and is contained in full in Volume 2. The conceptual stormwater system incorporates water sensitive urban design principles and is depicted in **Figure 9.5.**

The system will be constructed in three stages, each being self sufficient in terms of runoff quantity and quality. All stages will include rainwater tanks for roof areas, buffer strips to treat lot drainage, bioretention swales to deal with road runoff and gross pollutant traps to remove litter and debris. All runoff from events of up to the three-month return period will filter through bioretention basins before being released to receiving waters. This treatment train aims to provide a high quality discharge with no adverse impacts on receiving waters.

Stormwater detention measures will be employed to ensure that there is no overall increase in the rate of runoff from the site, mitigating potential flooding impacts downstream. Existing dams will be utilised to store stormwater for controlled release.

The proposed stormwater treatment systems have been modelled using MUSIC 3.01. Modelling has demonstrated that the development can proceed without producing an increase in the export of pollutants from the site when compared to current conditions. The proposed system is designed to meet accepted efficiency standards for the removal of key pollutants.

9.7 Environmental Management Plan

An Environmental Management Plan (EMP) has been prepared by Cardno to manage the potential environmental impacts that may occur as a result of site development and addresses the following key elements:

- flora and fauna management;
- water quality management;
- sediment and erosion control;
- air quality control;
- noise emissions control; and
- waste minimisation.

The EMP establishes objectives, actions, performance indicators, monitoring, reporting and review and corrective actions on non-compliance to be undertaken by contractors. The relevant legislation, guideline or Council Policy for each element is identified.

9.8 Cultural heritage

Aboriginal cultural heritage values are protected under the *National Parks and Wildlife Act 1974*. Development must ensure that Aboriginal places or objects are not destroyed, damaged or defaced without prior consent from the Director-General of the Department of Environment and Conservation (DEC).

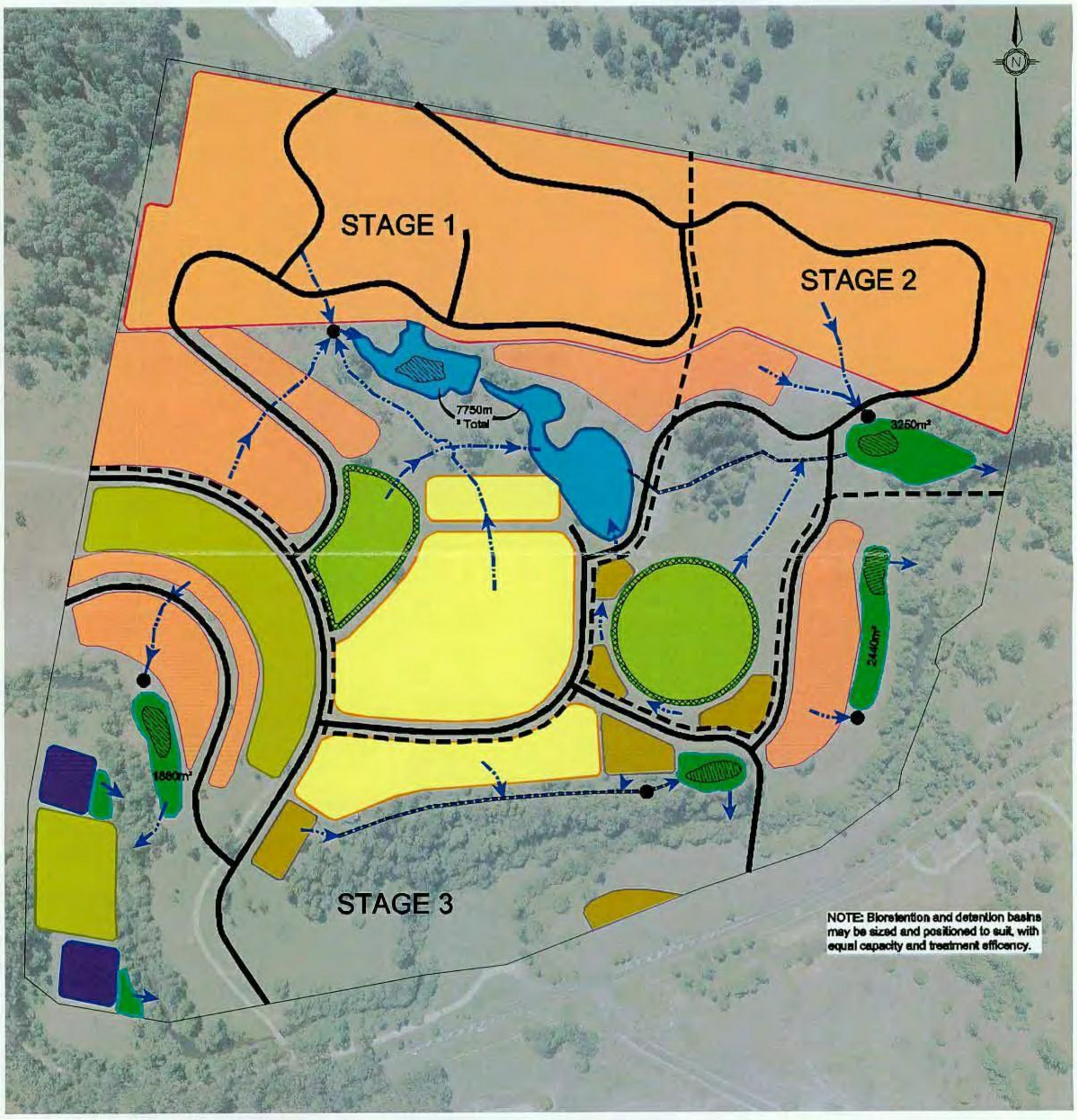
A search of DECs Aboriginal Heritage Information Management System was undertaken by Davies Heritage Consultants Pty Ltd. The search found that no Aboriginal objects or Aboriginal places were recorded within the site. A detailed Aboriginal Heritage assessment is proposed to be undertaken as part of the preparation of Precinct Plans.

There are no known European heritage items on the site.

FIGURE 9.4
Draft Bushfire Management Plan

FIGURE 9.5

Conceptual Stormwater Drainage System



9.9 Conclusion

The Nightcap Village site has rich environmental attributes and constraints which must be respected. The essence of Nightcap is its attractive environmental setting.

The natural terrain points to a logical juxtaposition of development precincts separated by open spaces, with the Village heart and main street set against the central hill.

The ecological opportunity is to significantly expand the Tweed River riparian and koala habitat and protect the endangered Green-leaved rose walnut. Rehabilitation and replanting of the hill below the Mebbin National Park Road is another important element.

The site is largely flood free and only a minor cut and fill is proposed.

The Concept Plan reflects bushfire management requirements and the loop road system is an important emergency consideration.

The conceptual stormwater system aims to minimise the runoff and water quality impacts and can be achieved in three self-sufficient stages.

Overall, the environmental assessment indicates that the Village Concept Plan is a responsible environmental framework for detailed Precinct Plans.

Infrastructure and Traffic Assessment

10

10.1 Overview

The necessary infrastructure required for Nightcap Village includes:

- Water supply
- Sewerage treatment
- Internal and external roads and road works
- Electricity and telecommunications

There are no external water or sewer connections to the Kunghur area. Water supply and sewerage treatment must be reliable and self-sufficient. This presents an exciting opportunity to implement sustainable technologies that have been developed in recent years. Most importantly, these technologies must be proven.

This enables integrated water cycle management from the collection of water in tanks on every building in the Village and stormwater collection, to water storage and treatment, water distribution, to sewerage treatment and recycling. The use of treated effluent for woodlots, the market garden and landscape areas is an essential component of the cycle.

Road works will include the construction of a roundabout on or adjacent to the Kyogle Road and development contributions towards the upgrading of Kyogle Road which will be determined by the Tweed Shire.

An internal loop road system has been designed to maximise accessibility and lower traffic levels on Village streets. The intention is low vehicle speeds and central visitor parking areas to reduce through traffic.

Electricity and telecommunications are available to the site and preliminary investigations with service providers indicate that service capacity is available for Village needs.

10.2 Water supply

Cardno has conducted a Water Supply and Sewerage Assessment for the Nightcap Village proposal. This assessment is summarised here and contained in full in the Environment and Infrastructure Report in Volume 2.

The development will have to provide its own water supply as it is remote from any existing potable supply reticulation networks. Potential water sources were investigated to provide a reliable supply to the development including rainwater tank supply and surface water storages. Proposed water supply infrastructure is depicted in **Figure 10.1**.

Rainwater tank supply would provide the sole supply to the low density Village Lots. A minimum 45-kilolitre rainwater tank storage would be required with a roof catchment of 150 m2 or more. A first flush device should be fitted, and it is recommended that UV treatment units are installed to treat the potable component.

Rainwater tank supply would also provide approximately 50% of the supply to the Village Housing and Mixed Village Precincts. The rainwater tank supply would be connected to the kitchen and shower/bath outlets. A minimum rainwater tank capacity of 20 kilolitres per residence would be required. The roof area draining to the tank should be ideally 90 m2 or more.

A treated supply from existing and proposed surface water storages is also proposed. Pipelines would be constructed from the two existing and the two proposed storages to elevated raw water storage just west of the site, from where it will be treated to potable standard and reticulated by gravity to the village housing, mixed village and other communal parts of the development. The supply should be sufficient to provide about 50% of the requirements for the village-style housing. This supply would be connected to the toilet, laundry and minor external outlets in each residence.

10.3 Sewerage treatment

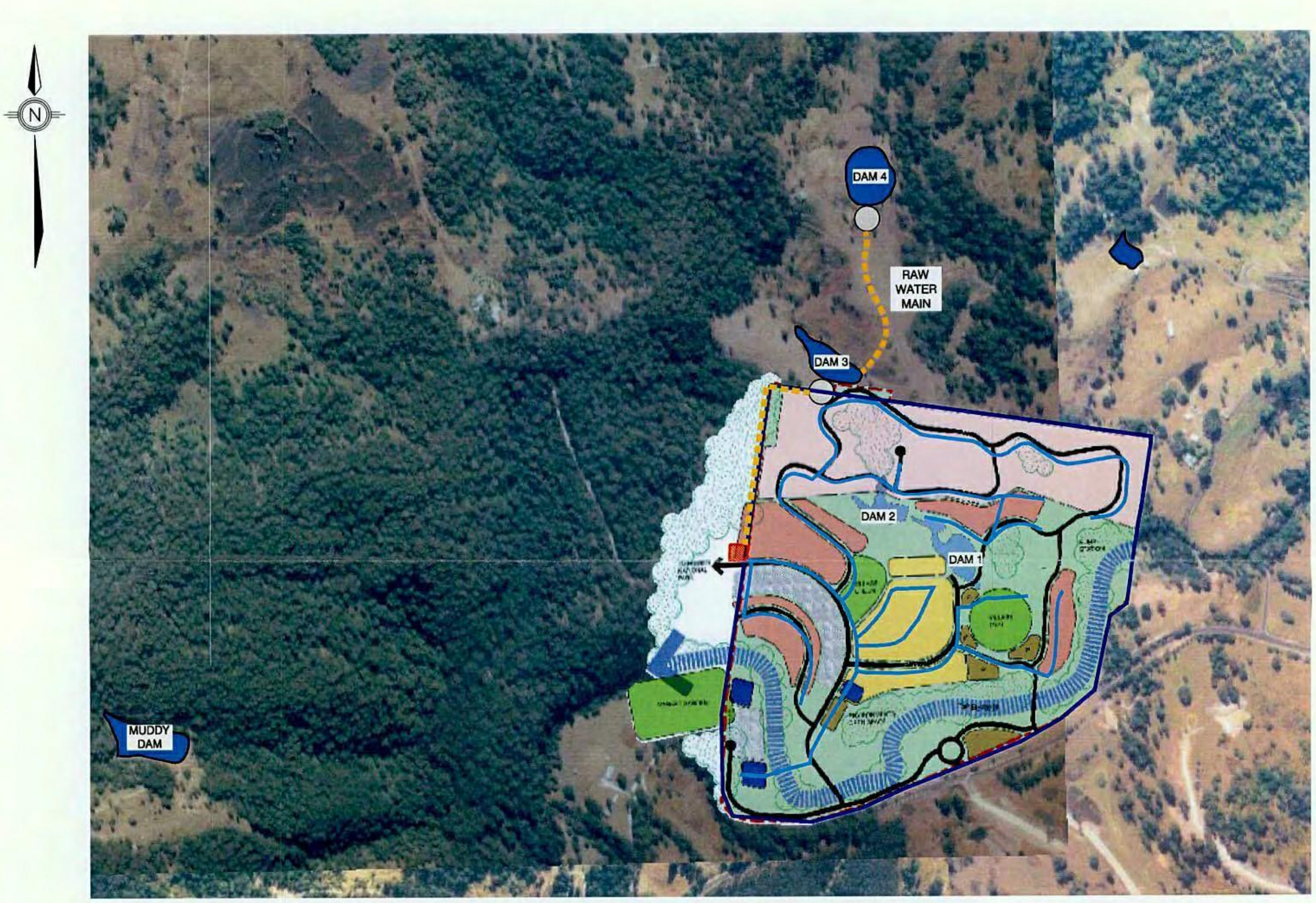
The proposed sewerage infrastructure is depicted in **Figure 10.2**. A sewage treatment plant (STP) will need to be constructed to treat sewage effluent from the development. With ultimate development of the site, an STP with a capacity of approximately 50 ML/year will be required. A buffer storage with approximate capacity of 6.6 ML would be required for wet weather storage, and an area of approximately 13.5 hectares would be required for land disposal of treated effluent.

The STP proposed for installation at the site is a membrane bioreactor with submerged ultra-filtration membrane. The STP will provide tertiary treatment with removal of micro-organisms, suspended solids and nutrients including nitrogen and phosphorous. The treatment process requires low energy and chemical inputs and produces high quality effluent with treatment to a Class A+ standard. The final effluent is suitable for use as low-grade process water or for irrigation purposes.

Influent is pumped through a raw sewage screen for removal of inorganic material and screened sewage flows to the primary pump station for transfer to balance tanks. Sewage is stored as batches within balance tanks prior to filling of aeration tanks. Batch supply to aeration tanks is controlled by timers and float level switches within the balance tanks. Aeration is provided by oxygen diffusers with dissolved oxygen levels maintained between 1mg/L and 1.5mg/L to allow biological breakdown of organics and nutrients.

Sewage then flows to membrane filtration tanks for removal of bacteria and viruses prior to transfer to the effluent tank. Disinfection occurs by chlorine dosing within the effluent tank following filtration. Phosphorous removal is achieved through chemical precipitation by dosing of aluminium sulphate to the first aeration tank. Waste sludge is collected in a sludge storage tank for periodic pump-out and removal of settled sludge.

FIGURE 10.1
Proposed Water Supply Infrastructure



10.4 Treated effluent disposal

It is proposed to reuse treated effluent from the STP for irrigation. There is sufficient land area within the proposed development site and surrounding land parcels for disposal of treated effluent by landscape irrigation. Treated effluent from the STP will be used for irrigation of areas such as the proposed sports and recreation area, the village green and market garden area within the site. These irrigation areas will be used for disposal of treated effluent within Stage One of the development. The easements required for irrigation areas and sewerage infrastructure within surrounding land parcels are shown in **Figure 10.2.**

Sites are also available for landscape irrigation within existing plantation sites on land parcels to the north of the proposed development. These areas are not required for irrigation during Stage One of the development. However, it is recommended that the use of these lots for future irrigation be investigated.

Treated effluent use for landscape irrigation will be carried out in accordance with the requirements of the *National Water Quality Management Strategy Guidelines* for Sewerage Systems Use of Reclaimed Water including the level of treatment, effluent quality, effluent monitoring and monitoring frequency and specified controls and requirements.

The disposal of treated effluent by landscape irrigation will require management under an Effluent Irrigation Management Plan, which will be prepared for submission with Precinct Plans.

10.5 Traffic and road works assessment

The Traffic Study by Cardno is contained in full in Volume 2 and is summarised below.

The traffic assessment is based on a maximum residential population of 800 to 1000 residents and a peak event population of residents and visitors of 2,000 people. At peak the development will generate approximately 4,500vpd on Kyogle Road which currently carries approximately 1,200vpd near the site.

The proposed access to Kyogle Road is via two unsignalised intersections (one existing opposite Mebbin Springs and one new junction 150 – 200m east of here). The traffic analysis indicates that both junctions will operate acceptably with full development traffic beyond a 2027 horizon.

Whilst the assessment considers a T junction at the western site access (opposite the Mebbin Spings access), it is recommended that a roundabout be considered on Kyogle Road. The roundabout would incorporate this western access plus the Mebbin Springs access as shown in **Figure 10.3**.

The advantage of the roundabout is that it would:

- accommodate turning traffic to both the Village site and Mebbin Springs;
- signify the existence of the village on this section of Kyogle Road;
- reduce traffic speed on Kyogle Road adjacent to and approaching the village site.

It is recommended that a slower speed limit of 80 km/hr apply on Kyogle Road on approaching the Village and 60km/hr adjacent to the village. Sight distance to/from each access location has been checked and would meet the appropriate criteria subject to some vegetation clearing on the site and within the road reserve

An assessment has been made of the traffic aspects of the development using the following Tweed Shire Council codes and policies:

- Development and Control Plan No. 2 – Site Access and Parking Code;
- Development and Control Plan No. 6 – Multi-Dwelling Housing;
- Development and Control Plan No. 16 – Subdivision Manual;
- Tweed Road Contribution Plan CP no. 4, Version 4.8 (TRCP).

The site is proposed to be developed in stages after detailed Precinct Plans have been prepared and approved. This will provide for staged contributions to Kyogle Road upgrading under the Tweed Road Contribution Plan.

To encourage the village atmosphere, parking and through traffic within the village centre is to be discouraged. The parking provision on site is to be a combination of public parking areas (communal), public on street parking and private off street parking. The aim is to encourage visitors to park in the public areas and walk to and within the village.

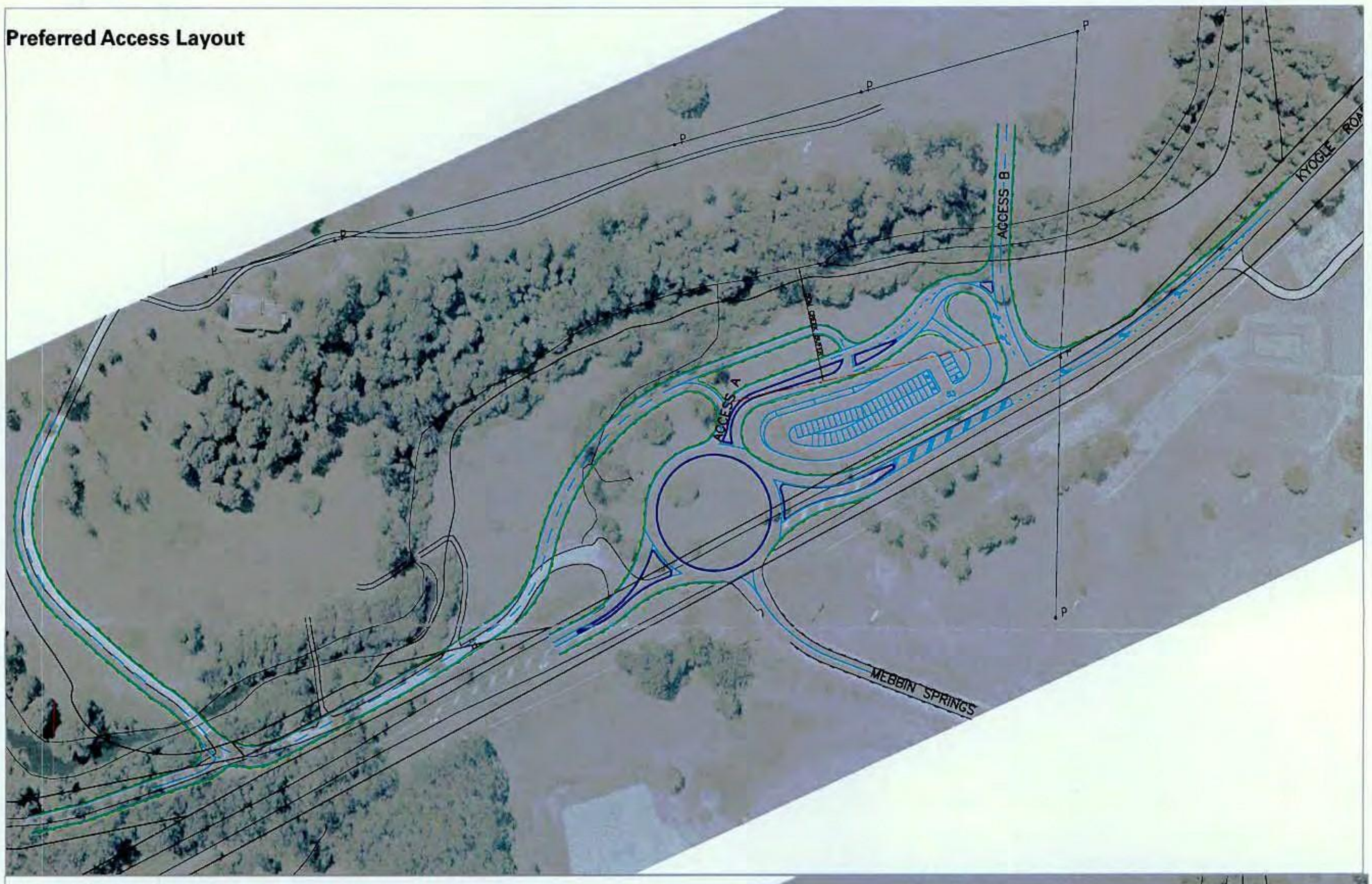
Whilst the individual parking requirements will be finalised as part of each Precinct Plan and development application, the intent is to ensure that the overall quantum satisfies the public demand and Council's planning requirements. A total of 235 public car spaces are proposed with provision for one space per residential dwelling in the Village Housing and Mixed Use precincts.

It is intended that the connection to the Village from Kyogle road – loop road access over the River and including the Main Street – will be public roadway. The smaller streets and the northern loop would be managed by the Owners Corporation.

FIGURE 10.2
Proposed Sewerage Infrastructure

FIGURE 10.3
Conceptual Plans -
Kyogle Road Access

Preferred Access Layout



Alternative Access Layout

Within the village site the speed limit is intended to be no greater than 40km/h. The following road cross sections are proposed in accordance with Council's standards for road design:

- neighbourhood connector street – 11m wide pavement (maximum) within an 18m wide road reserve – to connect from each access point on Kyogle Road to the central village main street;
- central village main street – 9m wide pavement (maximum) within a 17m wide road reserve – the east west connector street through the village centre connecting between each of the neighbourhood connector streets;
- access street – 7.5m wide pavement (maximum) within a 14.5m wide road reserve – to connect from the central village connector street beyond the western boundary of the site;
- other access streets – 7.0m; and
- access place – 5.0m.

Due to the steepness of parts of the site, a preliminary design of the layout was tested to ensure that suitable vehicle access could be achieved. The preliminary road layout is able to provide full access to the all parts of the proposed development. This includes an additional crossing of the Tweed River and looped internal road systems to provide alternative access in the case of bushfire. This design is preliminary only and will be modified on the preparation of detailed Precinct Plans.

The assumptions used in developing the preliminary design were based on a 50 km/h design speed with a maximum roadway grade of 16%.

Principle access to the development was set to provide "flood free" access during a 1 in 100 year ARI flood, with access to residential building sites above the 2 year ARI flood level and roads being trafficable during the 10 year ARI event.

Driveway access can be achieved to all lots within the development. In some locations, split level roads will be used to improve property access in steeper areas.

A network of pedestrian pathways is proposed throughout the site. The network provides easy pedestrian connections to the village centre and between the main entry car park (and other car parks) and the village centre. This network will facilitate the village objective of minimising car usage.

10.6 Electricity and communications

It is anticipated that there will be sufficient telecommunications capacity available in the existing network within the vicinity of the site to service the development. Telstra has registered the proposed development and will provide further information on network capacity at the operational works stage. The requirements for provision of any additional infrastructure will be determined at that time. The telecommunications infrastructure necessary to service the proposed development can be accommodated within the road reserves throughout the site.

Country Energy has confirmed that the existing 11kV network in the vicinity of the site has capacity to support the development. The provision of any additional infrastructure will be undertaken following negotiation with Country Energy. The electrical infrastructure necessary to service the proposed development can be accommodated within the road reserves throughout the site.

Correspondence from service providers is included in Volume 2.

Integrating the Village with its Surrounds

11

What sets the Nightcap Village proposal apart from other developments is its completeness. A new rural village is being proposed with a variety of residential, commercial and conservation land uses with its own system of services and infrastructure. The surroundings of the Village which are owned by the Van Lieshout family are an integral part of the scheme (**Figure 11.1**).

Land to the north of the Village will provide water supply and effluent irrigation areas and will be directly tied to Village land use as part of development.

Land to the west and northwest of the Village also has an important role to play as a backdrop to the village, for eco-tourism, conservation, plantation forestry and farming.

The balance holdings were the subject of a detailed report by Biolink – "Integration of the village concept with surrounding land use" and land use options are shown in **Figure 11.2**. The full report is included in Volume 2 and the Summary is reproduced below:

"Rarely does an opportunity present itself to effectively integrate a proposed new village with a change to surrounding use such that it has the potential to enhance the proposed community's lifestyle, provide important employment opportunities and generally promote more ecological sustainable land use practices.

The proposed Nightcap Village site is surrounded by a 1200ha multiple-tenured, land parcel (the balance holdings), ownership which is vested in the proponent.

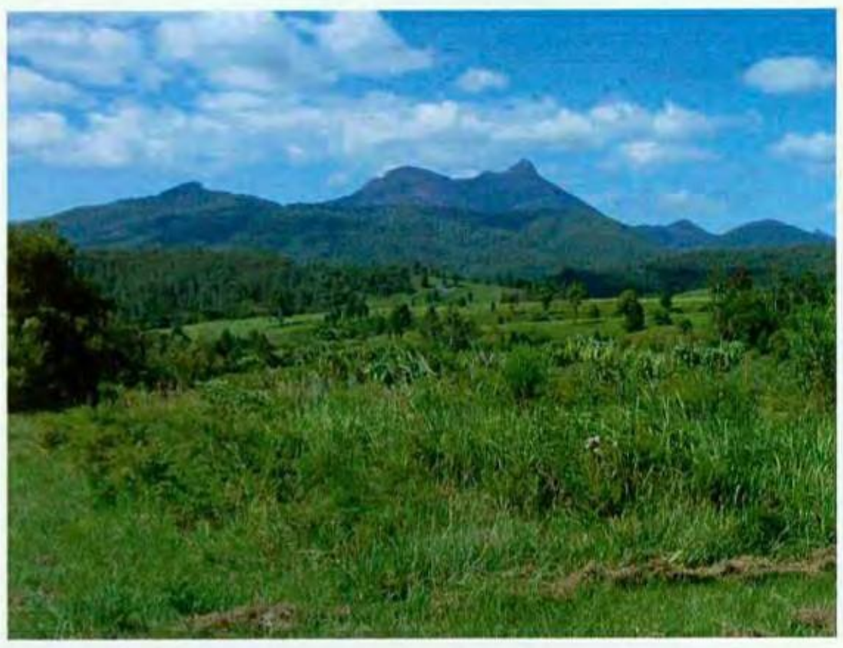
Despite a history of disturbance, the balance holdings retain a number of important conservation values, including large areas of sclerophyll forest and patches of lowland sub-tropical rainforest. A number of threatened flora and fauna species are also known to occur. Current land use activities include plantation forestry, cattle grazing and educational pursuits.

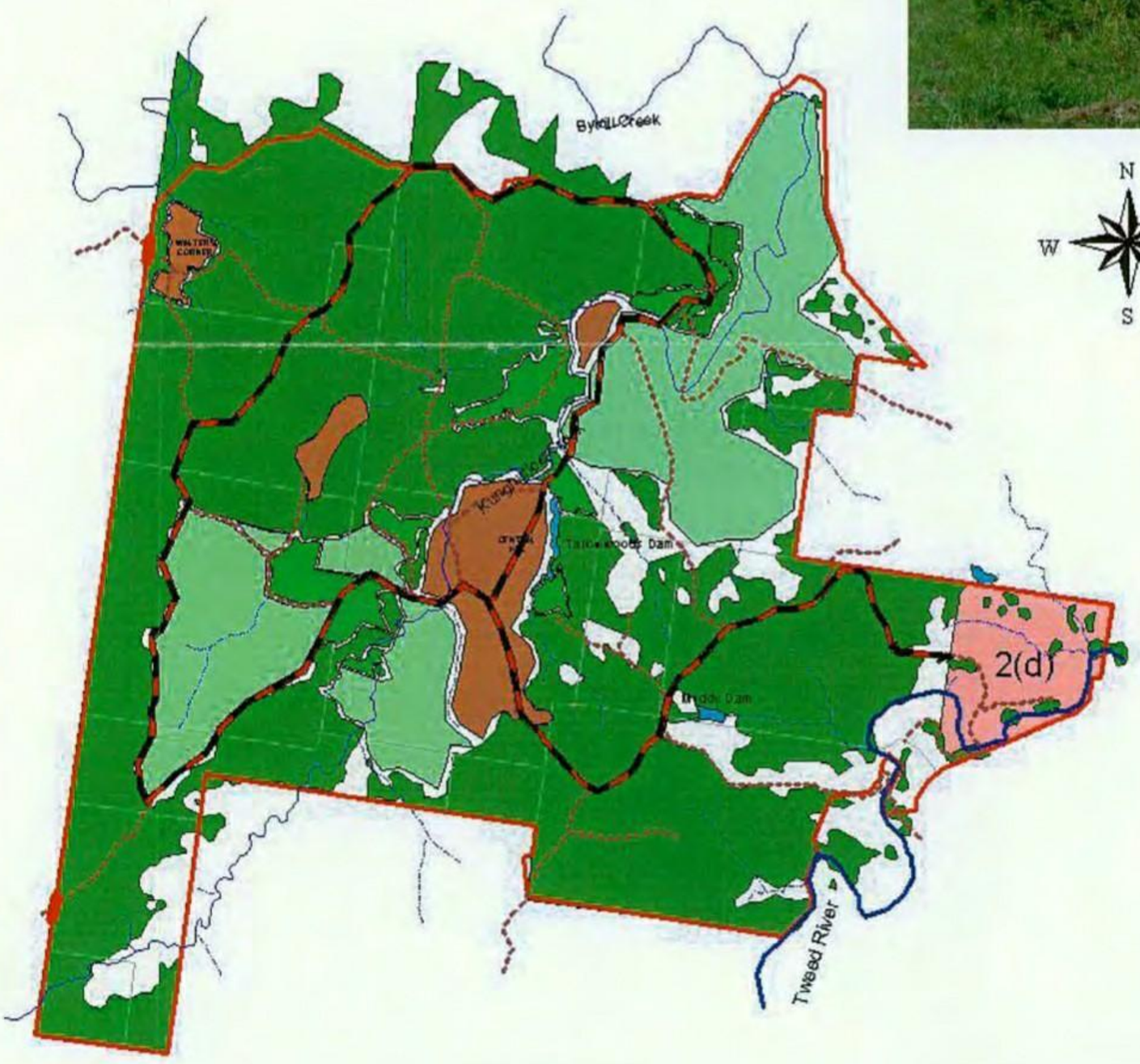
The Nightcap Village proposal has the potential to set benchmark standards for ecologically sustainable practices in the Tweed LGA. In support of this, the balance holdings also present related opportunities for consideration that, collectively, can only serve to enhance the village and its longer term economic sustainability. Foremost amongst these are opportunities for eco-tourism, a concept enabled by the size of the balance holdings generally, the proximity of the adjoining national park estate and the presence of a large, centrally located precinct called Central Hill.

The long-term outcome envisaged in this document is for an alternative land use scenario that would see approximately 60-70% of the balance landholdings dedicated to conservation and eco-tourism pursuits, with the remaining 30-40% potentially devoted to plantation forestry. The report concludes by identifying some of the issues arising from a material change of land use, whilst also providing a series of interim recommendations intended to further inform and guide this process in the short to medium term."

This gradual land use change does not require planning approval but it is an essential part of the Nightcap vision.

FIGURE 11.1
Biolink land use study of
Van Lieshout balance holdings





Community Consultation

12

12.1 Community open day

An open day to brief interested people on the concept proposal for Nightcap Village was held at the Uki Progress Hall on Sunday May 28, 2006. Details of the open day were as follows.

An invitation newsletter was distributed to all letterboxes in the Uki and Kunghur areas. Invitations were also sent to Council and government agencies. An advertisement was also placed in the public notices section of the Tweed Link.

The open day display consisted of display posters with graphics and notes on the concept plan, project team, proposed water and sewer arrangements, traffic and circulation and conservation measures and other details of the proposal. Members of the project team were available to answer questions about the proposal.

96 people registered their attendance at the open day and feedback forms were provided to record comment. 45 feedback forms were completed.

Details of this process and a record of all community feedback are contained in the Community Engagement Report by Three Plus which is included in Volume 2.

12.2 Community issues

The key issues that were raised by the community and a response are detailed below.

The impact of the Village on traffic on the Uki-Kyogle Road was an overriding concern. The development would exacerbate existing safety problems on the road and cause danger to pedestrians, wildlife and children in townships.

Response: There is no doubt that the proposed Village will increase traffic on Kyogle Road. The Road carries an average of about 1200 vehicles per day at the site at present. Our traffic studies indicate that a peak "event" on the Village site (1,000 residents and plus 1,000 visitors) would introduce an estimated 4,500 vpd onto Kyogle Road. The following points are made:

- This is a peak event.
- The alignment of Kyogle Road is such that we believe that the speed limit should be lowered from its general 100 km maximum on safety grounds.
- A roundabout in the Kyogle Road alignment with a 60 km limit either side is the preferred design for access to the Village on safety grounds.
- The Village development contribution for upgrading the Kyogle Road will be substantial.

These issues are highlighted in our traffic studies and need to be carefully worked through with the Tweed Shire and the RTA.

Impacts of urban development including impacts on the character of the area, noise from additional traffic and light pollution from street lights and housing.

Noise will increase due to increased traffic but noise and light impacts from the Village itself are unlikely to be significant given that the Village is located well off the Road and is screened by the vegetation along the Tweed River. The scale of the hills around the Village will remain the dominant landform against the skyline. The Village location in a bowl below the foothills of the main range, combined with riparian vegetation, minimises visual impact.

Domestic animals will endanger local wildlife.

Bans on cats and dogs within the Village curtilage need to be considered.

Sewer, water and power systems need to be sustainable and pollution needs to be minimised.

The integrated water cycle system includes sewer treatment using membrane technology, water tanks on all buildings and water storage and recycling on and adjacent to the site. The system is designed to be reliable and self-sustainable. The technologies are new but are proven and avoid reliance on community infrastructure external to the site and aim to maximise water reuse and minimise pollution (refer to the Water Supply and Sewerage Assessment by Cardno in Volume 2).

Impact on local services such as schools, hospitals, police, community and recreation services, and, local infrastructure and employment.

These issues are addressed in the Socio-Economic Impact Assessment by Prosperous Places. Local and regional employment benefits arising from the Village development are expected to be considerable.

The estimates are 155 jobs once the Village is established and an additional 80 "flow-on" jobs.

The development will increase the demand for local commercial and community services and facilities. This is generally considered beneficial because of the declining rural population in the area and the impact this has had on the viability of services and businesses.

General impact on the character and amenity of the area and the size of the development.

The Village is proposed to be situated away from the road frontage and will be well screened by vegetation along the River as noted above. Over 40% of the residentially zoned area is to be given over to open space. The development will have far less character and amenity impact than an equivalent number of people housed in a very low density residential or rural residential subdivision which has been the traditional means of accommodating population in rural areas.

Habitat loss and environmental concerns

An environmental assessment of the site is contained in Volume 2. The site has been substantially cleared and farmed for many years and the assessment recommends that existing vegetation and habitat areas be protected and conserved and supplemented with additional planting. The western hillside is to be replanted with indigenous species. Stormwater will filter through bio-retention basins before recycling or release to receiving waters.

Notwithstanding these and other individual comments on feedback forms, many of the open day visitors expressed enthusiasm for the design and environmental approach.

Conclusion

13

The application proposes the development of a vibrant rural village community of distinctive character which is renowned for its sense of community, design excellence, mix of village housing, contribution to local employment and its conservation approach.

We believe that the proposal represents a more sustainable form of rural development than rural residential subdivisions or ad hoc additions to existing settlements. It is also a much needed alternative to the continued spread of coastal development in the Tweed.

This application is for:

1. A staged development under Clause 83 of the Environmental Planning and Assessment Act 1979;

2. Concept proposals for Nightcap village in the form of a Draft component of the Development Control Plan; and

3. In-principle agreement to the subdivision of three Village master lots and necessary infrastructure to serve the Village.

The application also seeks:

4. An amendment to the Tweed LEP to allow building on lots of less than 450m2 within the Nightcap Village boundary or the approval of a SEPPI objection to allow this to occur.

We believe that approval of the concept proposal is justified. Our assessment is that the concept proposal satisfies the planning and environment framework for the local area and the region in that:

I. The land is designated as an "Urban Area" under the Draft Far North Coast Strategy. A central aim of the Strategy is to develop a "region of villages."

II. The proposed form of development is entirely in keeping with the sustainable development philosophy contained in the Tweed Strategic Plan – Tweed 4/24.

III. The land to be developed for Nightcap Village is zoned for the purpose – i.e. Residential 2(d) Village under the Tweed LEP.

IV. The proposed Nightcap Development Control Plan sets an orderly and proper framework for the development of the Village. Detailed Precinct Plans are required before any development can take place.

V. The Village design principles are very much in step with the principles contained in council's Subdivision Manual (DCP 16) including: linked neighbourhoods; an emphasis on pedestrian movement; the protection of natural assets; variety in housing types; and, the minimisation of Council and other public costs in servicing the development.

VI. The Planning Assessment in Chapter 7 indicates that development is expected to comply with the important provisions of Council's Development Control Plans. Where conflicts may arise the Draft Nightcap Village DCP requires:

- documentation of any variations to Council DCP standards, and
- the submission of detailed designs for more intensive forms of Village housing and mixed use.

VII. The Socio-economic assessment in Chapter 8 concludes that the development will provide considerable local employment (230 full-time jobs), will support local businesses and services and arrest population decline in the area.

VIII. The Environment al Assessment in Chapter 9 indicates that the concept proposal is a responsible environmental framework for the preparation of detailed precinct plans, given that:

- The natural terrain points to a logical pattern of site development, conservation and rehabilitation.
- There is an opportunity to significantly increase koala habitat and riparian vegetation on the Village site and protect the endangered Green-leaved rose walnut.
- The proposed development area is flood free except for a minor cut and fill requirement.
- Bushfire management objectives can be met and the loop road system provides good emergency site access.
- Stormwater runoff and water quality impacts can be managed in three self-sufficient stages.

IX. Water and sewerage infrastructure can be provided as part of a sustainable water cycle management approach (Chapter 10). This involves the collection of all roof rainwater in tanks for household use, stormwater collection in supplementary water storages, the tertiary treatment of sewerage effluent using a membrane treatment plant, and, the reuse of stormwater and treated effluent for woodlot, landscaping and market garden irrigation.

X. Village traffic can be safely accommodated by a roundabout within the Kyogle Road reserve (preferred) or by a T-junction with a 60kmh limit on either side. A new road access to the east will provide an efficient and safe loop road system for the Village. A substantial development contribution will be required for the general upgrading of Kyogle Road.

XI. Electricity and telecommunication facilities are available to the site.

XII. Importantly, surrounding land in common ownership provides the opportunity for an entirely complementary conservation and eco-tourism setting for the Village.

The Nightcap Team is well aware that the concept proposal needs detailed work and the resolution of many design and practical issues before development works can be approved.

However, the Nightcap Village proposal is a genuine attempt to establish a sustainable rural settlement using a holistic approach to development, conservation and infrastructure provision.